



CHAPTER 6

CONSERVATION ELEMENT

6.1 PURPOSE

The Conservation Element identifies and establishes the City's official policy relative to the identification, establishment, preservation, and management of natural resources in the City. The purpose of this Element is to establish official City policy which:

- ◆ Identifies areas in Costa Mesa with substantial natural resources that must be managed to prevent waste, destruction or neglect.
- ◆ Identifies policies related to permitted uses and development standards within conservation areas, as well as programs to ensure the conservation of resources.
- ◆ Identifies desired courses of action/strategies which provide the means to implement the City's conservation policies.

The Conservation Element will focus on the eight following topics:

- ◆ Air Quality;
- ◆ Biological Resources;
- ◆ Coastal Resources;
- ◆ Energy;
- ◆ Water Resources;
- ◆ Wastewater;
- ◆ Water Quality; and
- ◆ Waste Management.

This Element meets State requirements concerning the Conservation Element as defined in Section 65302(d) of the Government Code. According to these requirements, the Conservation Element must include goals and policies that further the protection and maintenance of the State's natural resources such as water,

soils, wildlife, minerals, and other natural resources; and prevent their wasteful exploitation, degradation and destruction.

6.2 RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

The Conservation Element is one of ten elements included in the Costa Mesa 2000 General Plan. The policies of the Conservation Element are directly related to the policies in the Land Use, Transportation, Growth Management, Safety, and Open Space and Recreation elements. The goals, objectives, and policies of the Conservation Element shall be consistent with all other elements of the Costa Mesa 2000 General Plan.

6.3 SUMMARY OF EXISTING CONDITIONS

AIR QUALITY

The City of Costa Mesa is located in the South Coast Air Basin (Basin), characterized as having a Southern California "Mediterranean" climate (a semi-arid environment with mild winters, warm summers and moderate rainfall). The Basin is a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Geronio Pass area in Riverside County. The distinctive climate of the Basin is determined by terrain and geographical location, as the Basin is a coastal plain with connecting broad valleys and low hills. The general region lies in a semi-permanent high pressure zone on the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

Wind

One of the most important climatic factors is the direction and intensity of the prevailing winds. With very light average wind speeds (five to seven miles per hour), the Basin has a limited capability to disperse air contaminants horizontally. Typically, the net transport of air on-shore is greater in the summer, while the net off-shore transport is greater in the winter. Whether there is air movement or stagnation during the morning and evening hours (before these dominant patterns take effect) is one of the critical factors in determining the smog situation on any given day.

Costa Mesa's location with respect to these flow patterns and the Pacific Ocean results in relatively good air quality. For the most part, the on-shore winds transport pollutants farther inland, away from Costa Mesa. Since the night drainage winds are less intense, only a limited amount of this pollution is returned during the summer. Because of the similar intensity of on- and off-shore winds in

the winter, pollution levels are somewhat higher on winter nights. The highest pollution levels in Costa Mesa are often associated with these conditions and Santa Ana wind conditions, which reverse the dominant wind patterns.

Sunlight

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original, or "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources.

Because of the prevailing daytime winds and time delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California. However, Costa Mesa and other coastal cities are not exempt on those days with early morning easterly winds.

Temperature Inversions

A temperature inversion is a reversal in the normal decrease of temperature as altitude increases. In most parts of the country, air near ground level is warmer than the air above it. However, Southern California's daily summertime sunshine and high barometric pressure reverse that pattern, creating warmer air at high elevations which trap pollutants by preventing cooler air from rising to the upper atmosphere. The height of the base of the inversion is known as the "mixing height" and controls the volume of air available for the mixing and dispersion of air pollutants.

The interrelationship of air pollutants and climatic factors are most critical on days of greatly reduced atmospheric ventilation. On days such as these, air pollutants accumulate because of the simultaneous occurrence of three unfavorable factors: low inversions, low maximum mixing heights and low wind speeds. Although these conditions may occur throughout the year, the months of July, August, and September generally account for more than 40 percent of these occurrences.

The potential for high contaminant levels varies seasonally for many contaminants. During late spring, summer and early fall, light winds, low mixing heights and brilliant sunshine combine to produce conditions favorable for the maximum production of oxidants, mainly ozone. When fairly deep marine layers frequent the Air Basin during spring and summer, sulfate concentrations achieve yearly peak concentrations. When strong surface inversions are formed on winter nights, especially during the hours before sunrise, coupled with near-calm winds, carbon monoxide from automobile exhausts becomes highly concentrated. The highest yearly concentrations of carbon monoxide, oxides of nitrogen and nitrates are measured during November, December and January.

Rainfall

Winter storms that bring rainfall benefit air quality, since they tend to "scrub" gaseous or particulate pollutants from the air.

AMBIENT AIR QUALITY STANDARDS

Ambient air quality is described in terms of compliance with Federal and State standards. Ambient air quality standards are the levels of air pollutant concentration considered safe to protect the public health and welfare. They are

designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. National Ambient Air Quality Standards (NAAQS) were established by the United States (U.S.) Environmental Protection Agency (EPA) in 1971 for six air pollutants. States have the option of adding other pollutants, to require more stringent compliance, or to include different exposure periods.

The California Air Resource Board (CARB) is required to designate areas of the State as attainment, non-attainment, or unclassified for any State standard. An “attainment” designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A “non-attainment” designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An “unclassified” designation signifies that data does not support either an attainment or non-attainment status.

State and Federal ambient air quality standards have been established for the following pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), fine particulate matter (PM₁₀) and lead. For some of these pollutants, notably O₃ and PM₁₀, the State standards are more stringent than the Federal standards. The State has also established ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. The above-mentioned pollutants are generally known as “criteria pollutants.”

The U.S. EPA in 1997 announced new ambient air quality standards for O₃ and PM₁₀. The new standards were intended to provide greater protection of public health. EPA proposed to phase out the 1 hour O₃ standard and replace it with an 8-hour standard. There are two new Federal PM_{2.5} (particulates less than 2.5 microns in diameter) standards: a 24-hour limit set at 65 micrograms per cubic meter (mg/m³) of ambient air and an annual average limit set at 15 mg/m³. The current PM₁₀ standards will be retained. Areas will be considered in attainment for the annual PM_{2.5} standard when the three-year average of the annual arithmetic mean is equal to or less than 15 mg/m³. For the new 24-hour standard, attainment will be based on the 98th percentile of PM_{2.5} concentrations for each year, averaged over three years, to help compensate for any high concentrations that may be due to unusual meteorological conditions. Following announcement of the new national standards, the SCAQMD began collecting monitoring data to determine the region’s attainment status with respect to the new standards. Industry groups have challenged the new standards in court.¹

The South Coast Air Basin (Basin) has the worst air quality problem in the State. Despite implementing many strict controls, the SCAQMD portions of the Basin still fails to meet the Federal air quality for three of the six criteria pollutants: ozone (O₃), carbon monoxide (CO) and fine particulate matter (PM₁₀). Because Federal pollution standards have not been achieved, the Basin is considered a non-attainment area for Federal standards for these pollutants. For State standards, the Orange County portion of the Basin is designated as non-attainment for O₃ and PM₁₀.²

¹ *Assessing the Air Quality Impacts of Projects and Plans, Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines*, prepared by BAAQMD, December 1999.

² *Proposed Amendment to the Area Designations for State Ambient Air Quality Standards and Proposed Maps of the Area Designations for the State and National Air Quality Standards*, prepared by the California Environmental Protection Agency, Air Resource Board, October 1, 1999.

LOCAL AMBIENT AIR QUALITY

The South Coast Air Quality Management District (SCAQMD) operates several air quality monitoring stations within the Air Basin. Costa Mesa is located within Source Receptor Area (SRA) 18, with a monitoring station located within the City limits. Air Quality data from 1996 to 2000 for SRA 18 is provided in Table CON-1. The only pollutant measured at this monitoring station which exceeded the State standards was ozone. For all five years all the other pollutants which were measured at this monitoring stations were recorded under both the State and Federal standards.

REGULATORY FRAMEWORK

Federal Clean Air Act

The 1970 Clean Air Act (CAA) authorized the establishment of the National Ambient Air Quality Standards (NAAQS), and set deadlines for their attainment. The Federal Clean Air Act Amendments of 1990 made major changes in deadlines for attaining NAAQS and in the actions required of areas of the nation that exceeded these standards.

California Clean Air Act

The 1988 California Clean Air Act (CCAA) requires that all air districts in the State endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for ozone (O₃), carbon monoxide (CO), sulfur oxides (SO₂), and nitrogen oxides (NO₂) by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources. The Act also gives districts new authority to regulate indirect sources. Each district plan is to achieve a five percent annual reduction (averaged over consecutive three-year periods) in district-wide emissions of each non-attainment pollutant or its precursors. Any additional development within the region would impede the "no net" increase prohibition, in that further emissions reductions must be affected from all other airshed sources to accommodate any project development mobile source emissions increase.

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) has prepared multiple Air Quality Management Plans (AQMPs) to accomplish the five percent annual reduction goal. The most recent AQMP was published in 1997. To accomplish its task, the AQMP relies on a multi-level partnership of governmental agencies at the Federal, State, regional and local level. These agencies, which include EPA, CARB, local governments, Southern California Association of Governments (SCAG) and the SCAQMD, are the cornerstones that implement the AQMP programs.

1997 AQMP. A 1997 AQMP was prepared and adopted by the SCAQMD on November 15, 1996. The 1997 AQMP was adopted by CARB on January 23, 1997. The 1997 Plan contains two tiers of control measures: short- and intermediate-term, and long-term. Short- and intermediate-term measures are scheduled to be adopted between 1997 and the year 2005. These measures rely on known technologies and other actions to be taken by several agencies that currently have the statutory authority to implement the measures. They are designed to satisfy the Federal CAA requirement of Reasonably Available

**TABLE CON-1
LOCAL AIR QUALITY LEVELS FOR SRA 18**

Pollutant	California Standard	Federal Primary Standard	Year	Maximum ¹ Concentration	Days (Samples) State/Federal Std. Exceeded
Carbon Monoxide	9.0 ppm for 8 hour	9.0 ppm for 8 hour	1996	7.20	0/0
			1997	5.90	0/0
			1998	7.09	0/0
			1999	6.41	0/0
			2000	6.29	0/0
Ozone	0.09 ppm for 1 hour	0.12 ppm for 1 hour	1996	0.104	1/0
			1997	0.087	0/0
			1998	0.123	5/0
			1999	0.980	1/0
			2000	0.102	1/0
Nitrogen Dioxides	0.25 ppm for 1 hour	0.053 ppm annual average	1996	0.132	0/0
			1997	0.119	0/0
			1998	0.122	0/0
			1999	0.123	0/0
			2000	0.102	0/N/M
Sulfur Dioxides	0.25 ppm for 1 hour	0.14 ppm for 24 hours or 80 ug/m ³ (0.03 ppm) annual average	1996	0.004	0/0
			1997	0.015	0/0
			1998	0.007	0/0
			1999	0.005	0/0
			2000	0.006	0/0
Fine Particulate Matter ¹	50 ug/m for 24 hours	150 ug/m for 24 hours	1996	N/M	N/M
			1997	N/M	N/M
			1998	N/M	N/M
			1999	N/M	N/M
			2000	N/M	N/M
Sources: Data obtained from the South Coast Air Quality Management District, 1996 to 2000.					
ppm = parts per million ug/m ³ = micrograms per cubic meter N/M = not measured					
NOTES: 1. Maximum concentration is measured over the same period as the California Standard.					

Control Technology (RACT) and the CCAA requirement of Best Available Retrofit Control Technology (BARCT). There are 37 stationary source and 24 mobile source control measures in this group.

To ultimately achieve ambient air quality standards, further development and refinement of known low- and zero-emission control technologies, in addition to technological breakthroughs, would be necessary. Long-term measures rely on the advancement of technologies and control methods that can reasonably be expected to occur between 1994 and 2010.

The 1997 AQMP continues to include most of the control measures outlined in the previous 1994 Ozone Plan with minor exceptions, but postpones many marginal measures found to be less cost-effective, drops future indirect-source rules that are now deemed infeasible, and focuses the SCAQMD's efforts on about ten major emission-reduction rules. The SCAQMD will focus its efforts on seven major rules to reduce volatile organic compounds (VOCs), a key ingredient in smog; and the Plan includes new market-based measures giving businesses greater flexibility in meeting emission-reduction requirements, such as intercredit trading and additional credits for mobile source emission reductions.

The 1997 AQMP shows that measures outlined in the 1994 Ozone Plan are sufficient to attain the Federal health standards for the two most difficult ingredients in smog, PM₁₀ and ground level O₃, by the years 2006 and 2010, respectively. The region already has met the three other Federal health standards for Pb, SO₂ and NO₂.

To help reduce PM₁₀ pollution, the 1997 Plan outlines seven control measures for directly emitted particulates which will reduce emissions from agricultural areas, livestock waste, wood-working operations, construction, and restaurants. The measures will also help control dust from paved and unpaved roads, which accounts for two thirds of the directly-emitted particulates.

The 1997 AQMP Control Strategies. The 1997 AQMP's off-road mobile source control measures are based on the EPA's proposed Federal Implementation Plan (FIP) for the Basin. The FIP's proposed control measures are based on a combination of stringent emission standards, declining caps on emission levels and emission/user fees.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than are the general population. Sensitive populations (sensitive receptors) who are in proximity to localized sources of toxics and carbon monoxide are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The City of Costa Mesa is within the Newport Mesa Unified School District. Within the city boundaries are 24 schools comprised of elementary, middle, high school and college levels. In addition, there are approximately nine pre-kindergarten facilities which provide day care for the area and approximately three facilities which only provide child care. Within the cities jurisdiction there are two convalescent homes, one hospital and one senior center. These existing sensitive receptors are located throughout the City.

TOXIC AIR CONTAMINANTS (TACs)

SCAQMD implements TAC controls through Federal, State and local programs. Federally, TACs are regulated by EPA under Title III of the CAA. At the State level, the CARB has designated all 243 Federal hazardous air pollutants as TACs, under the authority of AB 1807. The Air Toxic Hot Spots Information and Assessment Act (AB 2588) requires inventories and public notices for facilities that emit TACs. Senate Bill 1731 amended AB 2588 to require facilities with "significant risks" to prepare a risk reduction plan (reflected in SCAQMD Rule 1402). SCAQMD also regulates source-specific TACs.

Refer to the Costa Mesa 2000 General Plan Environmental Impact Report (EIR), for additional information regarding Air Quality data.

BIOLOGICAL RESOURCES

FLORA AND FAUNA

A majority of Costa Mesa's valuable biologic resources are located in areas free from large-scale development intrusion. Areas such as these are found in western Costa Mesa near the Santa Ana River (refer to Exhibit CON-1, *Biological Resources*). Additionally, the agricultural fields in northern Costa Mesa support a unique animal community related to field crop production.

Flora

Prior to development in the City of Costa Mesa, the natural landscape was covered with a wide variety of native grasses with small sage scrub communities along the coastal bluffs and canyons. What remains of this natural environment is not representative of conditions at that time. The grasslands on the mesa at the Fairview Park site and Santa Ana River lowlands have been significantly altered by the introduction of nonnative grasses; grazing, agricultural production and discing; and frequent human activity. Adjacent sage-scrub communities have been disrupted by bluff erosion and grading, while the smaller riparian community near the Santa Ana River has been impacted by efforts to channelize the river for flood protection purposes.

In spite of these alterations, examples of all three communities (grassland, sage-scrub and riparian) can be found in limited amounts within the present City limits. In addition, a detailed description of these and other plant communities broken down into finer categories can be found in the Fairview Park Master Plan. This document includes descriptions of sensitive species and habitats not included below, and it is hereby incorporated by reference.

Grasslands. Grasslands are generally found at low elevations on flat plains or gentle hillsides having a deep layer of clay-bearing soil. A list of plants generally associated with this community is included below in Table CON-2.

Species most common to the Fairview Park and river lowlands are Russian thistle (*Salsola kali*), Curly Dock (*Rumex crispus*), mustard, Mexican tea (*Chenopodium ambrosioides*), Bermuda (*Cynodon dactylon*), Brome, wild oat, Italian rye (*Lolium multiflorum*), clover (*Trifolium* sp.) and Buckwheat.



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**TABLE CON-2
PLANTS OF THE GRASSLAND COMMUNITY**

Common Name	Scientific Name	Status	Confirmed Observation	Possible Present
Desert needlegrass	<i>Achnatherum speciosum</i>	-	X	
Red-skinned onion	<i>Allium haematochiton</i>	-	X	
Southwestern beardgrass	<i>Andropogon glomeratus</i>	-	X	
California sagebrush	<i>Artemisia californica</i>	-	X	
Coulter's saltbush	<i>Atriplex coulteri</i>	CNPS 1B		X
Slender wild oat	<i>Avena barbata</i>	-	X	
Wild oat	<i>Avena fatua</i>	-	X	
Black mustard	<i>Brassica nigra</i>	-	X	
Red brome	<i>Bromus rubens</i>	-	X	
Poverty brome	<i>Bromus sterilis</i>	-	X	
Prostrate spineflower	<i>Chorizanthe procumbens</i>	CNPS 4		
Wild hyacinth	<i>Dichelostemma pulchellum</i>	-	X	
Shooting stars	<i>Dodecatheon clevelandii</i>	-	X	
California buckwheat	<i>Eriogonum fasciculatum</i>	-	X	
White-stemmed filaree	<i>Erodium moschatum</i>	-	X	
California poppy	<i>Eschscholzia californica</i>	-	X	
California Chocolate lily	<i>Fritillaria biflora</i>	-	X	
Southern tarplant	<i>Hemizonia Parryi ssp. Australis</i>	CNPS 1B, FSC		X
Vernal barley	<i>Hordeum intercedens</i>	CNPS 3		X
Wild barley	<i>Hordeum murinum</i>	-	X	
Goldentop grass	<i>Lamarckia aurea</i>	-	X	
Coulter's goldfields	<i>Lasthenia glabrata ssp. Coulteri</i>	CNPS 1B, FSC		X (Historic)
Hairy peppergrass	<i>Lepidium nitidum</i>	-	X	
Small-flowered microseris	<i>Microseris douglasii var. platycarpa</i>	CNPS 4		X
Coastal prickly-pear	<i>Opuntia littoralis</i>	-	X	
California buttercup	<i>Ranunculus californicus</i>	-	X	
Johnson grass	<i>Sorghum halepense</i>	-	X	
Johnny jump-ups	<i>Viola pendunculata</i>	-	X	
FSC: Federal Species of Concern CNPS 1B: California Native Plant Society List for Plants Rare or Endangered in California and Elsewhere CNPS 3: California Native Plant Society List for Plants About Which We Need More Information – A Review List CNPS 4: California Native Plant Society List for Plants of Limited Distribution – A Watch List				
Source: Biological Consulting Services for the Conservation Element of the Costa Mesa General Plan, prepared by BonTerra Consulting, May 22, 2000.				

Sage Scrub. Sage scrub communities, consisting of grayish-green scrub usually less than three feet high, can be found at elevations less than 3,000 feet on foothills and coastal bluffs and canyons. The most prevalent form of sage in the Costa Mesa area is the coastal sage. Plants most commonly associated with this community are noted below in Table CON-3.

**TABLE CON-3
PLANTS OF THE SAGE SCRUB COMMUNITY**

Common Name	Scientific Name	Status	Confirmed Observation	Possible Present
Red-skinned wild onion	<i>Allium haematochiton</i>	-	X	
Aphanisma	<i>Aphanisma blitoides</i>	CNPS 1B, FSC		X
California sagebrush	<i>Artemisia californica</i>	-	X	
Coulter's saltbush	<i>Atriplex coulteri</i>	CNPS 1B		X
South coast saltscale	<i>Atriplex pacifica</i>	CNPS 1B, FSC		X
Parish's brittlescale	<i>Atriplex parishii</i>	CNPS 1B, FSC		X
Davidson's saltscale	<i>Atriplex serenana var. davidsonii</i>	CNPS 1B		X
Slender wild oat	<i>Avena barbata</i>	-	X	
Wild oat	<i>Avena fatua</i>	-	X	
Goldenstar	<i>Bloomeria crocea</i>	-	X	
Wavy-leaved soap plant	<i>Chlorogalum pomeridianum</i>	-	X	
Buckwheat	<i>Eriogonum fasciculatum</i>	-	X	
Decumbent goldenrush	<i>Isocoma menziesii var. decumbens</i>	CNPS 1B		X
Robinson's pepper-grass	<i>Lepidium virginicum var. Robinsonii</i>	CNPS 1B		X
Deerweed	<i>Lotus scoparius</i>	-	X	
Laurel sumac	<i>Malosma laurina</i>	-	X	
Melic grass	<i>Melica frutescens</i>	-	X	
Lemonadeberry	<i>Rhus integrifolia</i>	-	X	
California wild rose	<i>Rosa californica</i>	-	X	
White sage	<i>Salvia apiana</i>	-	X	
Purple sage	<i>Salvia leucophylla</i>	-	X	
Black sage	<i>Salvia mellifera</i>	-	X	
Hedge mustard	<i>Sisymbrium officinale</i>	-	X	
FSC: Federal Species of Concern CNPS 1B: California Native Plant Society List for Plants Rare, Threatened or Endangered in California and Elsewhere				
Source: Biological Consulting Services for the Conservation Element of the Costa Mesa General Plan, prepared by BonTerra Consulting, May 22, 2000.				

Buckwheat, sagebrush, pitcher sage (*Salvia spatheca*), Brittlebrush (*Encelia californica*), and limited amounts of chaparral can be found along the river bluffs and canyons.

Riparian. Riparian communities are associated with relatively permanent springs, streams, seeps and ponds. Within Costa Mesa such communities are found around the small pond near the Santa Ana River and Victoria Street, in the northwestern portion of the Fairview Park and along the bottom of Canyon Park. Because of the available water, these areas provide favorable habitats for a large variety of trees, shrubs and grasses. Such communities are generally characterized by the species identified in Table CON-4.

**TABLE CON-4
PLANTS OF THE RIPARIAN COMMUNITY**

Common Name	Scientific Name	Status	Confirmed Observation	Possible Present
Big-leaf maple	<i>Acer macrophyllum</i>	-	X	
White alder	<i>Alnus rhombifolia</i>	-	X	
Mule fat	<i>Baccharis salicifolia</i>	-	X	
Santa Barbara morning-glory	<i>Calystegia sepium ssp. binghamiae</i>	CNPS 1B		X (Historic)
Salt marsh bird's-beak	<i>Cordylanthus maritimus ssp. maritimus</i>	FE, SE		X (Historic)
Los Angeles sunflower	<i>Helianthus nuttallii ssp. parishii</i>	FSC		X (Historic)
Western sycamore	<i>Plantanus racemosa</i>	-	X	
Sword fern	<i>Polystichum munitum</i>	-	X	
Fremont cottonwood	<i>Populus fremontii</i>	-	X	
Canyon oak	<i>Quercus chrysolepis</i>	-	X	
Castor bean	<i>Ricinus communis</i>	-	X	
Arroyo willow	<i>Salix lasiolepis</i>	-	X	
Mexican elderberry	<i>Sambucus mexicana</i>	-	X	
Coastal bulrush	<i>Scirpus robustus</i>	-	X	
Poison oak	<i>Toxicodendron diversilobum</i>	-	X	
Broad-leaved cattail	<i>Typha latifolia</i>	-	X	
California bay laurel	<i>Umbellularis californica</i>	-	X	
Desert wild grape	<i>Vitis giardiana</i>	-	X	
FE: Federally-listed endangered FSC: Federal Species of Concern SE: State-listed endangered CNPS 1B: California Native Plant Society List for Plants Rare or Endangered in California and Elsewhere				
Source: Biological Consulting Services for the Conservation Element of the Costa Mesa General Plan, prepared by BonTerra Consulting, May 22, 2000.				

Mulefat, tules (*Scripus acutus*), tamarisks (*Tamarisk tetandra*), pampas grass (*Cortaderia selloana*), arroyo willow, castor bean and stands of cane (*Arundo donax*) are common native and nonnative plants in Costa Mesa.

Non-Native Vegetation. Subsequent urban development and agricultural production have introduced a wide variety of non-native vegetation to the area. These species were imported as agricultural crops (citrus fruits, avocados, grapes), for protection from winds (eucalyptus) and as ornamental landscaping. A majority of these trees, shrubs and flowers were brought from the Mediterranean Region, South Africa, South America, Central America, Australia and Eastern Asia, as well as northern California and eastern United States. Canary Island Pine, a variety of species of eucalyptus, deodar, podocarpus, pyracantha, azaleas and pittosporum are only a few examples. Today, species such as these are the dominant forms of vegetation within Costa Mesa.

Fauna

Based on paleontologic records, it appears that Orange County was inhabited by a wide variety of wildlife ranging from bison, jaguars, camels, wolves, ground sloths, bears and sabre-toothed cats to shrews and rats. The skeletal remains of a nearly perfectly preserved mastodon was excavated in 1962, near the intersection of Boa Vista Drive and Nevis Circle. However, as was the case of Costa Mesa's vegetative heritage, today's range of wildlife has been substantially reduced to those species which have adapted to close human contact. What remains today is an abbreviated predator-prey food chain consisting of squirrels, voles, white-tail kites, redtail hawks, occasional coyotes and numerous dogs and cats. The dominant form of wildlife is the California ground squirrel (*Spermophilus beecheyi*).

There is a direct relationship between the type and diversity of plant materials found in an area and the type and diversity of wildlife supported by this vegetation. The plant communities on the County of Orange's Talbert Nature Preserve and the City's Fairview Park sites offer seasonally important sources of food for migratory birds, occasional nesting and feeding sites for sea and shore birds. In the same area, the bluffside vegetation and thickets provide habitats for more reclusive species of birds, mammals and reptiles.

Some of these species which inhabit the remaining undeveloped lands within Costa Mesa are unique and of special interest. An example is the burrowing owl (*Speotyto cuniculara*). Observations of the owls have been reported on the Costa Mesa Golf Course and Country Club, and on the slopes of the Corona del Mar Freeway. The burrowing owl is a wild indigenous species of predatory bird which uses abandoned rodent burrows for nests, and is currently on the Audobon Society Blue List of rare birds.

Two other species which are becoming increasingly rare in the area occupy the County's parks and City's Fairview Park. The first, Coast horned lizard (*Phrynosoma lorumatum*), is extremely rare in this area. Second is the reclusive trapdoor spider, found along the bluff edge feeding on small ground dwelling insects. These spiders are found in higher concentrations on the park site than elsewhere in Orange County. Provisions to retain a natural area for the spiders are included in the development plans for the park.

One sensitive species which frequents Costa Mesa is the California least tern (*Sterna albifrons*), included on the State and Federal list of endangered species. Although the primary nesting sites for the least tern are located farther south at the mouth of the Santa Ana River, the pond south of Victoria Street provides an occasional feeding area. The pond is of such importance that it has been proposed as an "essential habitat" for the least tern colony by the United States Department of Interior, Fish and Wildlife Service.

Based on biological studies prepared as part of the Fairview Park Master Plan, numerous other sensitive species have been found at the park. Detailed accounts of these species found in that document are hereby incorporated by earlier reference.

A general list of wildlife species which are known, or are presumed to inhabit Costa Mesa is provided in Tables CON-5 and CON-6.

NATURAL COMMUNITY CONSERVATION PLAN

The County of Orange Environmental Management Agency (EMA) prepared a Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) for the Central and Coastal Subregion of Orange County. The NCCP/HCP was adopted on July 17, 1996.

PURPOSE OF THE NATURAL COMMUNITY CONSERVATION PLAN/ HABITAT CONSERVATION PLAN

In 1991, the California Legislature enacted the NCCP Act and declared that "there is a need for broad-based planning to provide for effective protection and conservation of the state's wildlife heritage while continuing to allow appropriate development and growth."

The primary goal of the Orange County NCCP/HCP is to protect and manage habitat supporting a broad range of plant and animal populations that are now found within the Central and Coastal Subregion. To accomplish this goal, the NCCP/HCP creates a subregional habitat Reserve System and implements a coordinated program to manage biological resources within the habitat reserve. Specific project purposes of the NCCP/HCP are:

- ◆ Planning for the protection of multiple-species and multiple-habitats within the coastal sage scrub habitat mosaic by creating a habitat Reserve System that contains substantial coastal sage scrub, chaparral, grasslands, riparian, oak woodlands, cliff and rock, forest and other habitats;
- ◆ Developing a conservation program that shifts away from the current focus on project-by-project, single species protection to conservation and management of many species and multiple habitats on a subregional level;
- ◆ Allowing social and economic uses within the subregion that are compatible with the protection of Identified Species and Habitats;
- ◆ Protecting the federally-listed coastal California gnatcatcher in a manner consistent with Section 10(a) of the Federal Endangered Species Act (FESA) and the Special 4(d) Rule for the gnatcatcher while providing for future Incidental Take of the species;

- ◆ Protecting the other two “target species,” the coastal cactus wren and orange-throated whiptail lizard, by treating them “as if they were listed” under Section 10(a) of FESA and allowing Incidental Take of these species;
- ◆ Protecting non-Coastal Sage Scrub (CSS) habitat within the CSS habitat mosaic at a level comparable to the protection provided for CSS, thereby contributing to the protection of a broader range of species than just the target species or CSS species;
- ◆ Addressing the habitat needs of the non-target species within the subregion and the non-CSS habitats, including protecting six other federally-listed species consistent with FESA Section 10(a) and treating 30 other “identified” species “as if they were listed” under Section 10(a) of the FESA;
- ◆ Addressing the conservation of sensitive species located on the Dana Point Headlands site, including the coastal California gnatcatcher, Pacific pocket mouse, other Identified Species and five designated plant species;
- ◆ Building upon prior regional open space planning that has occurred in Orange County and integrating that open space planning into the creation of the habitat Reserve System and subregional conservation strategy; and
- ◆ Addressing impacts to CSS and non-CSS habitats and related NCCP/HCP species addressed in the Joint EIR/EIS in a manner that will be used and relied upon in conjunction with future environmental reviews and documents.

SUBREGION DESCRIPTION

The Central and Coastal Subregion is a 208,000-acre area (about 325 square miles) that includes the central portion of Orange County, incorporating the area from the coastline inland to Riverside County. The subregion extends along the coast from the mouth of the Santa Ana River (Costa Mesa) to the mouth of San Juan Creek (Dana Point). The inland boundaries of the subregion follow State Route 91 along the west and El Toro Road and Interstate 5 to San Juan Creek to the east. Existing natural habitat, including 13 major vegetation types, cover about one-half of the overall Central and Coastal Subregion.

HABITAT RESERVE SYSTEM

The Habitat Reserve System is one of six components of the NCCP/HCP. The other five components include the Adaptive Management Program, Non-Reserve Supplemental Habitat Areas; North Ranch Policy Plan Area, Interim Management Program and Funding Reserve Creation and Habitat Management.

A 37,378-acre Habitat Reserve System was created to include significant areas of 12 of the 13 major habitat types located within the subregion. The Reserve System will protect more than 18,500 acres of CSS habitat and is also designed to function as a multiple-habitat system. In addition to CSS habitat, it also contains about 6,950 acres of chaparral, 5,700 acres of grasslands, 1,750

acres of riparian, 950 acres of woodland, 200 acres of forest habitat and significant portions of six other habitat types now existing within the subregion. Only coastal dune habitat is not included within the Reserve System. In terms of target bird species, the Reserve contains 370 coastal Gnatcatcher sites and 671 coastal cactus wren sites.

Habitat areas within the Reserve were identified as one of four categories to indicate the primary reason for inclusion in the Reserve. These Reserve habitat categories reflect the Biological Goals and Objectives outlined in Section 3.1 of the NCCP/HCP document. The four categories are as follows:

- ◆ Target Species Habitat: Areas with significant coastal sage scrub components and target species populations. Habitat areas within this category make up the “core” of the Reserve (primary goals 1, 2, 3 and 7).
- ◆ Habitat Linkage: Areas of natural habitat with coastal sage scrub and other habitats that are especially important as linkages (primary goals, 3, 4 and 5).
- ◆ Biodiversity Habitat: Areas with minimal to modest coastal sage scrub and/or target species that contribute toward a more diverse and manageable reserve (primary goals 2, 3, 4, 6 and 7).
- ◆ Restoration Opportunity: Areas that are currently subject to intensive agricultural or functionally similar land uses (e.g., landfills) where restoration would add coastal scrub in key linkage areas and/or contribute to a more manageable Reserve boundary (primary goals 1, 2, 3, 4 and 7).

Within the Reserve System, the NCCP/HCP restricts the kinds of permitted uses to protect long-term habitat values. Residential, commercial and industrial uses are prohibited, as are new active recreational uses outside already disturbed areas. New recreational facilities will be sited in locations compatible with habitat protection based on the understanding that recreational use is subordinate to habitat protection within the Reserve.

EXISTING OPEN SPACE WITHIN THE SUBREGIONAL HABITAT RESERVE

A significant amount of public open space is included within the Reserve System. The existing public lands in the Reserve total 14,498 acres and are located within both the Central and Coastal areas. The public open space includes regional and wilderness parks managed by the County of Orange EMA, other regional parks/open space managed by cities located within the subregion, State parks or ecological reserves managed by the California Department of Fish and Game (CDFG).

The following existing facilities are within the Habitat Reserve: Aliso and Wood Canyons Regional Park, Irvine Regional Park, Laguna Coast Wilderness Park, Peters Canyon Regional Park, Santiago Oaks Regional Park, Talbert Nature Preserve, Upper Newport Bay Regional Park, Weir Canyon Wilderness Park, Whiting Ranch Wilderness Park, Laguna Beach open space, San Juan Capistrano open space, Coal Canyon Reserve, Crystal Cove State Park, Upper Newport Bay Reserve, University of California Irvine, and the California Ecological Reserve in the Laguna Coast Wilderness Park.

The only area within the City of Costa Mesa that falls within the Habitat Reserve System is Talbert Regional Park, which has been identified as an area providing important biodiversity habitat.

NATURE RESERVE OF ORANGE COUNTY

Subsequent to the adoption of the NCCP/HCP, the Nature Reserve of Orange County was established to oversee the Habitat Reserve System. The following agencies comprise the Nature Reserve of Orange County Directors: United State Fish & Wildlife Service, California Department of Fish and Game, California Department of Parks and Recreation, County of Orange, Irvine Ranch Water District, Metropolitan Water District, Southern California Edison, Santiago County Water District, University of California at Irvine, Transportation Corridor Agencies, City of Irvine, The Irvine Company, Chandis Sherman Company, three public representatives, California Department of Forestry, Coastal Greenbelt Authority and the Orange County Fire Authority. For more information about the Reserve, contact the County of Orange Planning and Development Services Department at (714) 834-2552 or visit the county's website http://pdsd.oc.ca.gov/nr_nature.htm.

COASTAL RESOURCES

Costa Mesa is a landlocked community with no direct access to the Pacific Ocean. However, the City's favorable climate, large marine-related business community, and high summertime traffic volumes and congestion are the result of Costa Mesa's proximity to the coast.

Because of these relationships, portions of the City have been included in the California Coastal Zone under the jurisdiction of the Coastal Commission (refer to Exhibit CON-2, *Coastal Zone Boundaries*). As such, Costa Mesa is responsible for the development of policies and programs to protect and enhance its coastal resources.

LOCAL COASTAL PROGRAM

In mandating the preparation of Local Coastal Programs (LCP), the Coastal Act of 1976 does not dictate the precise content of individual LCP's. The only specific directive in the Coastal Act is to include a public access component to assure that maximum public access to the coast and public recreation areas is provided.

The State and Regional Interpretive Guidelines provide additional details regarding the content and processing requirements for LCP's. This portion of the General Plan was prepared to conform to these guidelines in order to fulfill the City's responsibilities to address and protect its coastal resources. Using this approach, the necessary coastal policies and programs can be integrated directly into the City's overall general planning process.

The portion of Costa Mesa within the Coastal Zone represents the central segment of the vacant Santa Ana River lowlands which extend from the coast inland to the northern boundary of the Fairview Park site. These lowlands are also a part of areas administered by the City of Newport Beach and Orange County. Because of this relationship, Costa Mesa's LCP must be coordinated with both Orange County and Newport Beach for the lowland properties to the south. Costa Mesa's efforts are also coordinated with those of Huntington Beach due to the proximity of the jurisdictions and the interrelationship of coastal issues.

**TABLE CON-5
SPECIES LIST OF MAMMALS, REPTILES AND AMPHIBIANS**

Common Name	Scientific Name	Status	Confirmed Observation	Evidence of Presence Found	Possibly Present
Species List of Mammals					
Coyote	<i>Canis latrans</i>	-	X		
Virginia opossum	<i>Didelphis virginiana</i>	-	X		
Black-tailed jackrabbit	<i>Lepus californicus</i>	-	X		
Striped skunk	<i>Mephitis mephitis</i>	-	X		
California vole	<i>Microtus californicus</i>	-	X		
House mouse	<i>Mus musculus</i>	-	X		
Long-tailed weasel	<i>Mustela frenata</i>	-	X		
Dusky-footed woodrat	<i>Neotoma fuscipes</i>	-	X		
Desert woodrat	<i>Neotoma lepida</i>	-	X		
Cactus mouse	<i>Peromyscus eremicus</i>	-			X
California mouse	<i>Peromyscus californicus</i>	-	X		
Deer mouse	<i>Peromyscus maniculatus</i>	-			X
Western harvest mouse	<i>Reithrodontomys megalotis</i>	-			X
Broad-footed mole	<i>Scapanus latimanus</i>	-			X
Ornate shrew	<i>Sorex ornatus</i>	-	X		
California ground squirrel	<i>Spermophilus beecheyi</i>	-	X		
Desert cottontail	<i>Sylvilagus audubonii</i>	-	X		
Botta's pocket gopher	<i>Thomomys bottae</i>	-	X		
Species List of Reptiles and Amphibians					
Silvery legless lizard	<i>Anniella pulchra pulchra</i>	FS,CSC			X
Black-bellied slender salamander	<i>Batrachoseps nigriventris</i>	-	X		
Western toad	<i>Bufo boreas</i>	-	X		
Coastal western whiptail	<i>Cnemidophorus tigris multiscutatis</i>	-			X
Western skink	<i>Eumeces skiltonianus</i>	-			X
San Diego alligator lizard	<i>Gerrhonotus multicarinatus webbi</i>	-			X
Pacific tree frog	<i>Hyla regilla</i>	-	X		
Common kingsnake	<i>Lampropeltis getulus</i>	-	X		
Coast horned lizard	<i>Phrynosoma coronatum</i>	-	X		
San Diego gopher snake	<i>Pituophis melanoleucus annectens</i>	-	X		
Bullfrog	<i>Rana catesbeiana</i>	-			X
Coast patch-nosed snake	<i>Salvadora hexalepis</i>	-			X
Western fence lizard	<i>Sceloporus occidentalis</i>	-	X		
Western terrestrial garter snake	<i>Thamnophis elegans</i>	-	X		
Side-blotched lizard	<i>Uta stansburiana</i>	-	X		
San Diego fairy shrimp	<i>Branchinecta sandiegonensis</i>	FE			
FS: Forest Service Sensitive Species CSC: State-listed California Species of Special Concern FE: Federally-Listed Endangered					
Source: Biological Consulting Services for the Conservation Element of the Costa Mesa General Plan, prepared by BonTerra Consulting, May 22, 2000.					

**TABLE CON-6
SPECIES LIST OF BIRDS**

Common Name	Scientific Name	Status	Confirmed Observation	Evidence of Presence Found	Possibly Present
Sharp-shinned hawk	<i>Accipiter striatus</i>	-	X		
Cooper's hawk	<i>Accipiter cooperii</i>	-	X		
Spotted sandpiper	<i>Actitis macularia</i>	-	X		
Mallard	<i>Anas platyrhynchos</i>	-	X		
Cinnamon teal	<i>Anas cyanoptera</i>	-	X		
American widgeon	<i>Anas americana</i>	-	X		
Green-winged teal	<i>Anas crecca</i>	-	X		
Northern shoveler	<i>Anas clypeata</i>	-	X		
Greater white-fronted goose	<i>Anser albifrons</i>	-	X		
American pipit	<i>Anthus reubescens</i>	-	X		
Great blue heron	<i>Ardea herodias</i>	-	X		
Burrowing owl	<i>Athene cunicularia</i>	CSC	X		
Lesser scaup	<i>Aythya affinis</i>	-	X		
Canvasback	<i>Aythya valisineria</i>	-	X		
Brant	<i>Branta bernicla</i>	-	X		
Bufflehead	<i>Bucephala albeola</i>	-	X		
Red-tailed hawk	<i>Buteo jamaicensis</i>	-	X		
Western sandpiper	<i>Calidris mauri</i>	-	X		
Sanderling	<i>Calidris alba</i>	-	X		
Dunlin	<i>Calidris alpina</i>	-	X		
Anna's hummingbird	<i>Calypte anna</i>	-	X		
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	-	X		
Lesser goldfinch	<i>Carduelis psaltria</i>	-	X		
House finch	<i>Carpodacus mexicanus</i>	-	X		
American goldfinch	<i>Carduelis tristis</i>	-	X		
Turkey vulture	<i>Cathartes aura</i>	-	X		
Hermit thrush	<i>Catharus guttatus</i>	-	X		
Willet	<i>Catoptrophorus semipalmatus</i>	-	X		
Belted kingfisher	<i>Ceryle alcyon</i>	-	X		
Semipalmated plover	<i>Charadrius semipalmatus</i>	-	X		
Killdeer	<i>Charadrius vociferus</i>	-	X		
Western Snowy plover	<i>Charadrius alexandrinus nivosus</i>	FT,CSC	X		
Marsh wren	<i>Cistothorus palustris</i>	-	X		
Northern flicker	<i>Colaptes auratus</i>	-	X		
American crow	<i>Corvus brachyrhynchos</i>	-	X		
Yellow-rumped warbler	<i>Dendroica coronata</i>	-	X		
White-tailed kite	<i>Elanus leucurus</i>	-	X		
American kestrel	<i>Falco sparverius</i>	-	X		

**TABLE CON-6
SPECIES LIST OF BIRDS – CONTINUED**

Common Name	Scientific Name	Status	Confirmed Observation	Evidence of Presence Found	Possibly Present
American coot	<i>Fulica Americana</i>	-	X		
Common yellowthroat	<i>Geothlypis trichas</i>	-	X		
Black-necked stilt	<i>Himantopus mexicanus</i>	-	X		
Dark-eyed junco	<i>Junco hyemalis</i>	-	X		
Loggerhead shrike	<i>Lanius ludovicianus</i>	CSC	X		
Bonaparte's gull	<i>Larus Philadelphia</i>	-	X		
Ring-billed gull	<i>Larus delawarensis</i>	-	X		
Long-billed dowitcher	<i>Limnodromus scolopaceus</i>	-	X		
Short-billed dowitcher	<i>Limnodromus griseus</i>	-	X		
Song sparrow	<i>Melospiza melodia</i>	-	X		
Lincoln's sparrow	<i>Melospiza lincolnii</i>	-	X		
Northern mockingbird	<i>Mimus polyglottos</i>	-	X		
Ruddy duck	<i>Oxyura jamaicensis</i>	-	X		
Savannah sparrow	<i>Passerculus sandwichensis</i> (spp. Beldingi)	SE	X		
California towhee	<i>Pipilo crissalis</i>	-	X		
Spotted towhee	<i>Pipilo maculatus</i>	-	X		
Eared grebe	<i>Podiceps nigricollis</i>	-	X		
Pied-billed grebe	<i>Podilymbus podiceps</i>	-	X		
Blue-grey gnatcatcher	<i>Poliophtila caerulea</i>	-	X		
Bushtit	<i>Psaltiriparus minimus</i>	-	X		
American avocet	<i>Recurvirostra Americana</i>	-	X		
Ruby-crowned kinglet	<i>Regulus calendula</i>	-	X		
Say's phoebe	<i>Sayornis saya</i>	-	X		
Black phoebe	<i>Sayornis nigricans</i>	-	X		
Black-chinned sparrow	<i>Spizella artogularis</i>	-	X		
California least tern	<i>Sterna antillarum browni</i>	FE,SE	X		
Spotted dove	<i>Streptopelia chinensis</i>	-	X		
European starling	<i>Stumus vulgaris</i>	-	X		
Western meadowlark	<i>Sturnella neglecta</i>	-	X		
Bewick's wren	<i>Thryomanes bewickii</i>	-	X		
Lesser yellowlegs	<i>Tringa flavipes</i>	-	X		
Mourning dove	<i>Zenaidura macroura</i>	-	X		
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	-	X		
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	-	X		
FE: Federally-listed Endangered FT: Federally-listed Threatened SE: State-listed Endangered ST: State-listed Threatened CSC: State-listed California Species of Special Concern					
Source: Biological Consulting Services for the Conservation Element of the Costa Mesa General Plan, prepared by BonTerra Consulting, May 22, 2000.					

COASTAL ZONE

The Coastal Zone in Costa Mesa is confined to a relatively small portion of the City (approximately 125 acres, 1.2 percent of the total planning area). Generally, the zone includes the Santa Ana River lowlands south of Victoria Street and extends eastward to include approximately 76 percent of the City's Canyon Park site. These boundaries represent a minor modification of the Coastal Zone established by the Coastal Act of 1976. The 1976 Coastal Zone totaled approximately 138 acres and included all or portions of six single-family units at the western terminus of Gleneagles Terrace (1.86 acres), a retail nursery site at 2100 Canyon Drive (2.10 acres), the southeasterly half of the 83-unit Sea Bluff Canyons condominium development (6.62 acres), and nine single-family units (2.66 acres) at the end of Republic Avenue. These four areas were removed under the provisions of Assembly Bill 462 at the request of the City in 1979.

Ownership and Land Uses

A great majority (97 percent) of the Coastal Zone is in public ownership (refer to Exhibit CON-3, *Potential Coastal Zone Parks*). Of the total 125.1 acres, approximately 97.6 acres are owned by the County of Orange, while 27.3 acres are owned by the City of Costa Mesa. The remaining acreage includes the northerly 0.23 acres of a 2.3-acre condominium project (Tract 12067 shown on Exhibit CON-3).

All of the Coastal Zone except the 0.23 acres in Tract 12067 is vacant or being developed as passive parks. The property owned by the County of Orange is designated as a portion of the Talbert Nature Preserve Regional Park site, while the City-owned property is developed as Canyon Park. Both parks extend beyond the boundaries of the Coastal Zone. The Talbert Nature Preserve Regional Park will extend to the north, across Victoria Street, and join the Fairview Park site approximately 2700 feet to the north. Canyon Park includes the "fingers" of the canyon south to Arbor Street and east toward Monrovia Avenue.

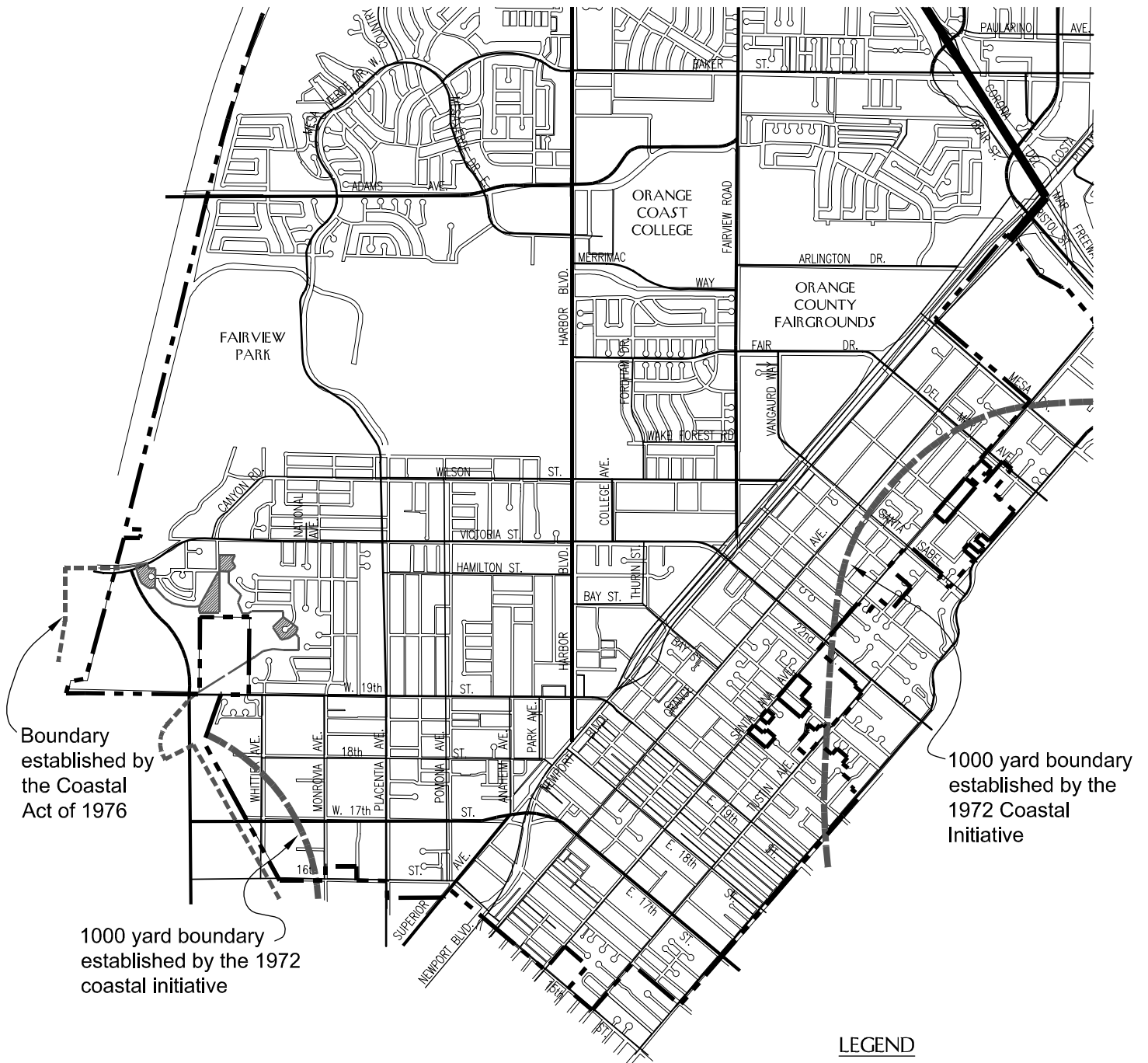
General Plan and Zoning

Upon acquisition of the Talbert Nature Preserve site by the County and the Canyon Park site by the City, the City Council initiated a General Plan Amendment (GP-78-1B) to indicate eventual public use of the properties.



The privately-owned 0.23-acre parcel carries a Low Density Residential General Plan designation and a PDR-LD zoning classification. This parcel was developed in 1986 (Tract 12067).

All of the river lowlands between Pacific Coast Highway and the Fairview Regional Park site are included in the Santa Ana River/Santiago Creek Greenbelt Corridor. The Greenbelt Implementation Plan designates this area as a "Water-Related Recreation and Conservation Area." Although the Plan does not propose a specific use of these properties, it does require the subsequent recreational use to be compatible with the overall greenbelt and to provide access to the river trails network.

COASTAL ZONE BOUNDARIES 1972/1976/1979



LEGEND

-  Coastal Boundary
-  1979 Deletions from coastal zone (A.B.462-Mello)

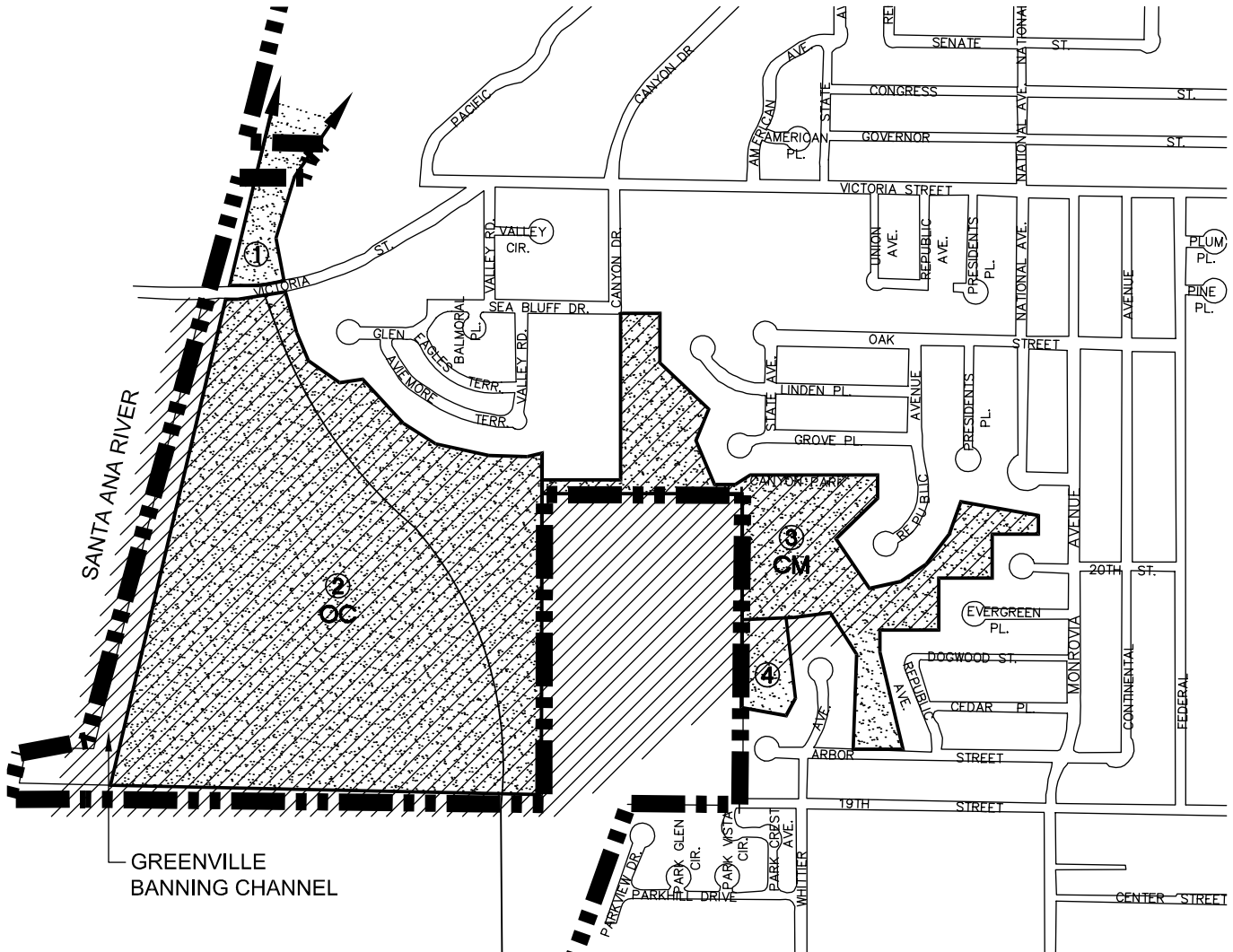


SCALE: 1"=4500'



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EXHIBIT CON-2



POTENTIAL COASTAL ZONE PARKS AND PROPERTY OWNERSHIP



LEGEND

-  City Boundary
-  Coastal Zone Boundary

PUBLIC OWNERSHIP

-  Costa Mesa
-  Orange County

PROPOSED PARKS

- ① Fairview Regional Park (Orange County)

- ② Talbert Regional Park (Orange County)

DEVELOPED

- ③ Canyon Park (Costa Mesa)

- ④ Tract 12067 (Cal-American Fin.)



NOTE: BOUNDARIES ARE APPROXIMATE

SCALE: 1"=1000'

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EXHIBIT CON-3

COASTAL ACT APPLICATION

The identification of key coastal issues is an important step in the development of a Local Coastal Program. This process seeks to 1) determine the policies of the Coastal Act that apply to Costa Mesa, 2) determine the extent to which existing local plans are adequate to meet Coastal Act requirements, and, 3) delineate any potential conflicts between existing plans and development proposals and the policies of the Coastal Act.

Coastal Act Policy Evaluation

Chapter 3 of the Coastal Act contains numerous policies regarding future development in the Coastal Zone which must be addressed in the LCP process. These policies have been organized in fourteen policy groups. The following table, Table CON-7, summarizes each of these policy groups and indicates the degree to which existing City plans and regulations are consistent with these policies.

PARKS WITHIN THE COASTAL ZONE

The County-owned land in the river lowlands and oil fields to the south are designated as "open space" by the Orange County General Plan and identified as the Talbert Nature Preserve Regional Park site. This approximately 213-acre area represents the southerly portion of a major regional open space network which continues to the north to include 83 acres of the Fairview Park site. The parks are to be linked by a common trails system. The River Greenbelt Plan, which was compiled in conjunction with Riverside and San Bernardino Counties, proposed passive recreational use for the park site. This plan was used as a concept plan for the All River Plan of the U.S. Army Corps of Engineers.

Orange County River Park

The Orange County River Park (OCRCP) is envisioned as a coordinated mosaic of publicly owned and future anticipated dedications of parks and open space along the Santa Ana River between the Mesa Verde residential community and the Pacific Ocean, as well as the up and downcoast open space corridors lying along Pacific Coast Highway between Superior Avenue and Beach Boulevard. The OCRCP is proposed by the Friends of Harbors, Beaches and Parks (FHBP)³ and would fall within the cities of Costa Mesa, Huntington Beach and Newport Beach. The properties to be included in the OCRCP include:

- ◆ Costa Mesa's Fairview Park;
- ◆ Orange County's Talbert Nature Preserve (regional park);
- ◆ The Corps of Engineers restored/U.S. Fish and Wildlife Service administered ecological preserve;
- ◆ The lands to be dedicated in conjunction with the entitlement of the West Newport Oil Company/Taylor Woodrow Company development project on the Banning Ranch property;

³ The Friends of Harbors, Beaches & Parks (FHBP) is a non-profit, charitable California corporation organized in 1997 to promote the protection, expansion and enhancement of regional recreation and open space facilities in Orange County.

**TABLE CON-7
2000 GENERAL PLAN AND ZONING COMPARISON WITH COASTAL ACT POLICY**

Coastal Act Policy Groups	Consistency with Coastal Policies	Remarks/Comments
1. Shoreline Access (§§30212)	Consistent	The Coastal Zone is approximately 2,000 yards inland from the coast. Access to future coastal-related recreational areas is protected, due to the public ownership of the area within the Coastal Zone.
2. Recreation and Visitor-Serving Facilities (§§30213, 30220-30224)	Potentially Consistent	The 2000 General Plan and Zoning classifications designate most of the area within the Coastal Zone for public recreational use. However, these provisions also permit other uses that may conflict with Coastal Act policies.
3. Water and Marine Resources (§§30230-32031)	Not Applicable	No water or marine resources are located within the City's Coastal Zone.
4. Diking, Dredging, Filling and Shoreline Structures (§§30233)	Not Applicable	No diking, dredging, filling or shoreline structures are anticipated by either the 2000 General Plan or Zoning designations.
5. Commercial Fishing and Recreational Boating (§§30234)	Not Applicable	No commercial fishing or recreational boating facilities are proposed and/or anticipated along the Santa Ana River.
6. Environmentally Sensitive Habitat Areas (§§30240)	Potentially Inconsistent	The 2000 General Plan and Zoning designations do not include policies for habitat protection, although the 2000 General Plan does address preservation and enhancement of wetlands pursuant to the Fairview Park Master Plan
7. Agriculture (§§30241)	Not Applicable	No agricultural production exists in the Coastal Zone.
8. Archaeological and Paleontological Resources (§§30244)	Potentially Consistent	Archaeological and paleontological sites are known to exist within the Coastal Zone. The 2000 General Plan includes policies to mitigate impacts to these resources.
9. Hazard Areas (§§30253)	Potentially Consistent	The 2000 General Plan and Zoning designations provide for uses compatible with known geologic and flood hazards.
10. Forestry and Soils Reserve (§§30243)	Not Applicable	No timberland or commercial forests in the City's Coastal Zone.
11. Locating and Planning New Development (§§30250)	Consistent	Planned and permitted development is located adjacent to an existing urban area.
12. Visual Resources and Special Communities (§§30251)	Potentially Consistent	The 2000 General Plan and Zoning designations encourage public recreational use, but do not include specific standards for view protection pursuant to the Fairview Master Plan.
13. Public Works (§§30252, 30254)	Consistent	The 2000 General Plan proposes public works improvements to serve future development in the Coastal Zone.
14. Industrial and Energy Facilities (§§30260)	Not Applicable	No industrial or energy facilities exist or are anticipated in the City's Coastal Zone.
Sections (§§) cited above refer to the California Public Resources Code, Division 20. California Coastal Act, §§30000 through 30900.		

- ◆ The former Pacific Coast Highway lands declared surplus by Caltrans between Superior Avenue and the West Newport Oil Company property;
- ◆ The Huntington Beach Wetlands Conservancy parcel located between the Santa Ana River and Brookhurst Street;
- ◆ The State Parks and Recreation least tern refuge just upcoast of the Santa Ana River on the seaward side of Pacific Coast Highway; and
- ◆ The privately owned wetlands properties lying inland of Pacific Coast Highway between Brookhurst Street and Beach Boulevard to the extent the Friends of Harbors, Beaches and Parks (FHBP) can obtain the owners' cooperation in this effort.

Collectively, the lands mentioned above encompass approximately 1,000 acres in the central Orange County coastal area. The FHBP envisions the OCRP to function as an "ecological staircase," encompassing a variety of vegetative communities, including grassland scrub, vernal pools, riparian, willow forest, inter-tidal river, marsh, dunes, and beach.⁴

WILDLIFE PRESERVE AND RESTORED WETLAND

The California Coastal Act proposes that the entire Santa Ana River lowlands be reserved as a multiple use regional park combining wetland restoration, general recreation, beach support facilities, and archaeological preservation. This option is similar to the regional park option discussed earlier but differs in regard to the extent of recreational uses and restoration areas. The current option anticipates a large portion of the site for restoration purposes.

The Santa Ana River lowlands represent a severely degraded and altered natural environment once consisting of the river delta and flood plain. A primary goal of this option is to restore these areas as both salt water marshes (near the mouth of the river) and fresh water marshes (further inland, possibly extending into Costa Mesa). This option is supported by the Coastal Commission and the Department of Fish and Game.

In 1979, the Department of Fish and Game initiated a pilot experimental saltmarsh restoration project west of the Santa Ana River, near Pacific Coast Highway. Analysis of the program indicated that the project was successful and has established itself very well. Based upon these findings and the nature of the river lowlands along the east levee, it appears that significant portions of the river lowlands may also be capable of restoration.

PUBLIC ACCESS PROVISIONS

Existing public access to the Coastal Zone is limited because of the undeveloped nature of the Canyon Park site and the Santa Ana River lowlands. Present access to the Santa Ana River Trail System is provided by the Victoria Street/Hamilton Avenue bridge.

Access to the City's Canyon Park site is provided via bicycle and pedestrian trails at the north end of the park off of Canyon Drive and a vehicular entrance off of Arbor Street at the southern end of the park. Circulation within the park is provided by a

⁴ Source: Correspondence to Allan Roeder, City Manager, City of Costa Mesa from Friends of Harbors, Beaches & Parks dated February 10, 1998.

series of pedestrian and bicycle paths. Access between the park site and the river lowlands is provided via a 40-foot wide strip of parkland between the Newport Terrace and Sea Bluff Canyon condominium projects. This access way was provided to satisfy the parkland dedication requirements of the Sea Bluff Canyon project in Costa Mesa.

Future access demands for the larger lowland area are directly related to the specific land use option chosen for implementation. The wildlife preserve option would require minimal and restricted access for environmental management purposes. Identification of future specific access points will be made in conjunction with detailed site planning.

ENERGY

ELECTRICITY

On March 31, 1998, the electricity generation market was deregulated creating the ability for other providers to supply electricity. However, as of August 2000, Southern California Edison (SCE) remains the primary supplier for the City of Costa Mesa. Electricity can be generated from a combination of oil, natural gas, hydroelectric, nuclear, or renewable sources (wind and solar).

SCE which has a total service area of 50,000 square miles with a population of over 10 million. Costa Mesa constitutes just less than one percent of the population served by Edison.

SCE has indicated that the future growth of Costa Mesa as anticipated in this General Plan is within the parameters of the overall projected load growth which they are planning to meet.

DEREGULATION

In June 1996, Assembly Bill (AB) 1890 was introduced by Assemblyman Jim Brulte (R - Rancho Cucamonga), and served as the legislative vehicle for the deregulation of California's electrical utilities. The bill promoted the establishment of a competitive electric generation market and direct access. It also authorized stranded cost recovery for utilities, mandated open, non-discriminatory access to transmission and distribution services, and supported the creation of the PX (Power Exchange) and ISO (Independent System Operator), continued funding for conservation, research and development, and subsidies for renewable energy resource development.

In August 1996, the California Legislature passed AB 1890 without a dissenting vote. Governor Wilson signed the bill on September 23, 1996, which ratified the Public Utilities Commission (PUC) plan for a PX to create a wholesale electricity market, and an ISO to manage operation of the transmission grid. It also called for state-backed bonds to "securitize" stranded costs and secure a promise for a 10-percent rate reduction for residential and other small customers through March 31, 2002 (or earlier) if the utility's stranded generation costs had been recovered.

During the summer and fall of 2000, there was increasing concern about the growing costs of electricity and the potential for energy shortages. In December 2000, wholesale spot prices for electricity skyrocketed following the Federal Energy Regulations Commission order to the California ISO to lift the cap, leading to California's energy crisis.

The energy crisis that California began experiencing in 2000 is the result of several key factors that have occurred over the past several years. Many critics believe that the deregulation of California utilities is to blame for the energy crisis. When deregulation occurred in 1996, California's major utilities sold many of their power plants to a handful of electricity wholesalers. Deregulation has given power suppliers little incentive to increase their capacity, despite the state's growing demand for electricity. Because of the high demand, unregulated wholesale energy prices have risen dramatically in the last year. However, the rates charged to customers are still under a freeze. Thus, the utilities (i.e., SCE) buy energy at a deregulated rate from the wholesale suppliers, but have to charge customers a much lower regulated rate. The deficit caused by paying more to the wholesalers than what they can charge customers is causing utilities to accumulate an increasing amount of debt, which may lead to the utilities filing for bankruptcy.

Many critics also point out that California imports nearly 25 percent of its electricity. Many the out-of-state companies have been reluctant to sell power to the California utilities because of concerns over the utilities' ability to pay for power. Additionally, many of the Northwest states that are dependent on hydroelectric power generation do not have much electricity to sell to California due to a lack of snow and rain in the region. Despite the state's demand for power, no major power plants have been built in California in the past ten years. Currently, there are four new plants under construction and plans for another plant has been approved. However, none of these plants will be opened for at least another two years.

Officials in California face some tough decisions in the near future; but in the meantime, they are imposing rolling blackouts across the state, which are expected to continue until utilities can increase the power supply or buy more power from outside sources.

NATURAL GAS

The Southern California Gas Company supplies natural gas to 18 million consumers which encompasses over 23,000 square miles of Southern California, including Costa Mesa. Ninety-five percent (95%) of the gas meters in the City are residential. As with fuel sources for electrical generation, the future of natural gas sources is uncertain.

Southern California Gas Company has indicated their ability to provide gas service to meet future growth within Costa Mesa as anticipated by the General Plan. All new gas service contracts would be in accordance with the company's policies and extension rules on file with the California Public Utilities Commission at the time contractual arrangements are made.

VEHICULAR FUELS

Because motor vehicles are powered almost exclusively by petroleum fuels derived from oil, supplies are directly affected by fluctuations in the international oil market as well as refinement and distribution facilities and policies within the United States. Supplies may be increased with production of new oil from within the country, including the outer continental shelf, and with development of new foreign sources. Foreign supplies, however, are subject to interruption for political and other reasons. Another possibility for increase in supplies of vehicular fuels is reduction in volumes of petroleum fuels necessary to supply energy to stationary users, through wider use of alternate energy technologies.

OVERHEAD UTILITY LINES

Many overhead electric, telephone and cable television lines still exist along City streets and alleys and in backyard easements. New on-site utilities are required to be installed underground to the nearest pole, at which point they join the overhead distribution system. Existing overhead electric and telephone lines are gradually being replaced by underground facilities. The City has determined priorities for these projects through the establishment of Underground Utility Districts.

Off-site utilities are gradually being undergrounded as funds become available from the utility companies. Edison has a specific fund for undergrounding projects. Monies are accumulated into the fund based on the number of meters in the City. Project location priorities are determined by the City and undergrounding is carried out by the Edison Company with designated funds and by the telephone company out of general operating funds.

Costa Mesa has established seventeen Underground Utility Districts. Lines along streets not designated as Underground Utility Districts are sometimes placed underground in conjunction with major street widening projects, such as Fairview Road. Although 66 kv transmission lines are difficult to place underground, the technology exists.

ALTERNATIVE FUELS

Use of alternative fuels is another way of reducing the demand for oil and gasoline in the transportation sector. A number of research and development programs are being carried out to discover and perfect fuels or fuel additives which will provide adequate engine performance with minimal pollution at a reasonable cost. The most widely used alternative fuel is propane gas.

Vehicular fuel reductions can also be realized by the implementation of transportation systems management (TSM) techniques. These measures range from street improvements such as additional lanes, modified signals and turning facilities, and parking restrictions to increase the efficiency of traffic flow (thus reducing travel time) to policies and actions encouraging carpooling and use of public transit and bicycles - to reduce total vehicle miles traveled.

Recent years have seen an increase in the use of high-occupancy vehicles, such as carpools and van pools, by commuters. Although this trend has not yet produced a significant impact, it does indicate some degree of public support. The Caltrans Ridesharing Program, which provides free carpool matching, has resulted in a Statewide fuel savings. Benefits of high-occupancy vehicle use include reductions in traffic congestion, air pollution, and energy consumption as well as cost savings to the participants.

ALTERNATE ENERGY SOURCES

As mentioned previously, solutions to the energy problem can be gained both through conservation and through development of additional sources of energy. Energy suppliers are continuously searching for new and expanded sources of conventional fuels such as oil, gas, and coal. More recently developed fuels, such as nuclear and geothermal, make up a small share of the nation's energy supplies. Solar energy is the viable alternate energy source for the City of Costa Mesa.

Solar energy can be harnessed in two ways: for conversion to electricity and for direct use to heat water or building interiors. Conversion of sunlight to electricity - through use of solar (photovoltaic) cells or heating of fluids to drive turbine

generators - is a high-cost technology, although several demonstration projects are built and improved cost efficiency is anticipated.

Direct use of solar energy is divided into two areas - passive and active. Passive solar energy refers to the design of buildings to take maximum advantage of the sun for heating and cooling through appropriate use of windows, overhangs and other shading devices, building materials, and landscaping. Active solar energy involves the use of solar collectors and related plumbing and mechanical facilities to heat water, building interiors, or swimming pools.

Passive solar design is an attempt to utilize characteristics of the local climate for natural heating and cooling. Because passive solar design primarily involves additional considerations in the design of buildings and little, if any, additional materials or equipment, the cost-effectiveness is quite high. In some cases, passive design can actually decrease initial costs by allowing smaller heating and air-conditioning appliances to be used.

More involved passive designs incorporate additional features such as denser building materials or water storage facilities adjacent to walls or on roofs to absorb and radiate heat. Costs of these designs are higher and add to the cost of a home.

Perhaps the most cost-effective application of passive solar energy is the use of swimming pool covers. These relatively inexpensive devices help heat the pool during the day and reduce heat loss at night. The initial investment can often be recovered in the first year of use.

Active solar systems are employed for the same uses as passive systems, but utilize additional technologies. Active systems consist of a series of solar collection panels through which a fluid (usually water) is passed to absorb heat from the sun. In water heating systems, the heated water is passed into a storage tank for use upon demand. A backup heater fueled by gas or electricity is normally included to provide additional heating on cloudy days.

For space heating, pipes containing the solar-heated water are passed through the forced-air duct where the heat is transferred to the air. With the addition of an absorption chiller, active solar systems can also be used for cooling. These systems, however, are not cost-effective at the present time.

Active solar water heating systems have been shown to result in significant savings - in both energy and cost - when compared to electric water heaters. Recovery of initial costs can be accomplished within four to nine years. Depending upon individual circumstances, solar water heating may or may not be cost-effective when compared to natural gas. However, the advantages of solar will become more pronounced as natural gas prices increase.

Use of active solar space heating systems has been found to be cost-effective when compared to certain types of electric heating systems, and it is estimated that cost-effectiveness may exceed that of gas-fired heaters in the future. The cost of active solar systems for space heating varies widely depending upon individual circumstances.

As with passive systems, swimming pool heating represents the most cost-effective use of active solar systems. Depending upon the system and local temperature conditions, initial costs can be recovered within three to seven years. Use of a pool cover will help to shorten the pay-back period.

WATER RESOURCES

GROUNDWATER BASINS

The City of Costa Mesa is situated within the Orange County groundwater basin (refer to Exhibit CON-4, *Groundwater Basin*). The basin is situated within the Santa Ana Plain, which encompasses the southern half of the great eastern coastal plain of Southern California that extends 24 miles into Orange County from its northern periphery at the Santa Monica Mountains. This valley, with an average width of approximately 15 miles, is the upper surface of a great deposit of alluvial material which fills a deep depression extending from the foothills of the Santa Ana Mountains to near the coast.

The Orange County Water District (OCWD) is responsible for the protection and management of the Lower Santa Ana Basin which is the only source of groundwater supply. The basin encompasses an area of about 387 square miles in north and central Orange County. The basin is bounded on the north by the Chino-Puente Hills, on the east by the Santa Ana Mountains, and on the south by the San Joaquin Hills and the Pacific Ocean. OCWD monitors 646 active wells within the basin: 225 are large municipal production wells, 200 are small production (mostly agricultural), and 221 are operated solely for water quality monitoring purposes. Under full storage, the basin is estimated to contain 10-40 million acre-feet of fresh water, with about 1 to 1.2 million acre-feet usable for water supply purposes within the withdrawal capacity of installed wells.

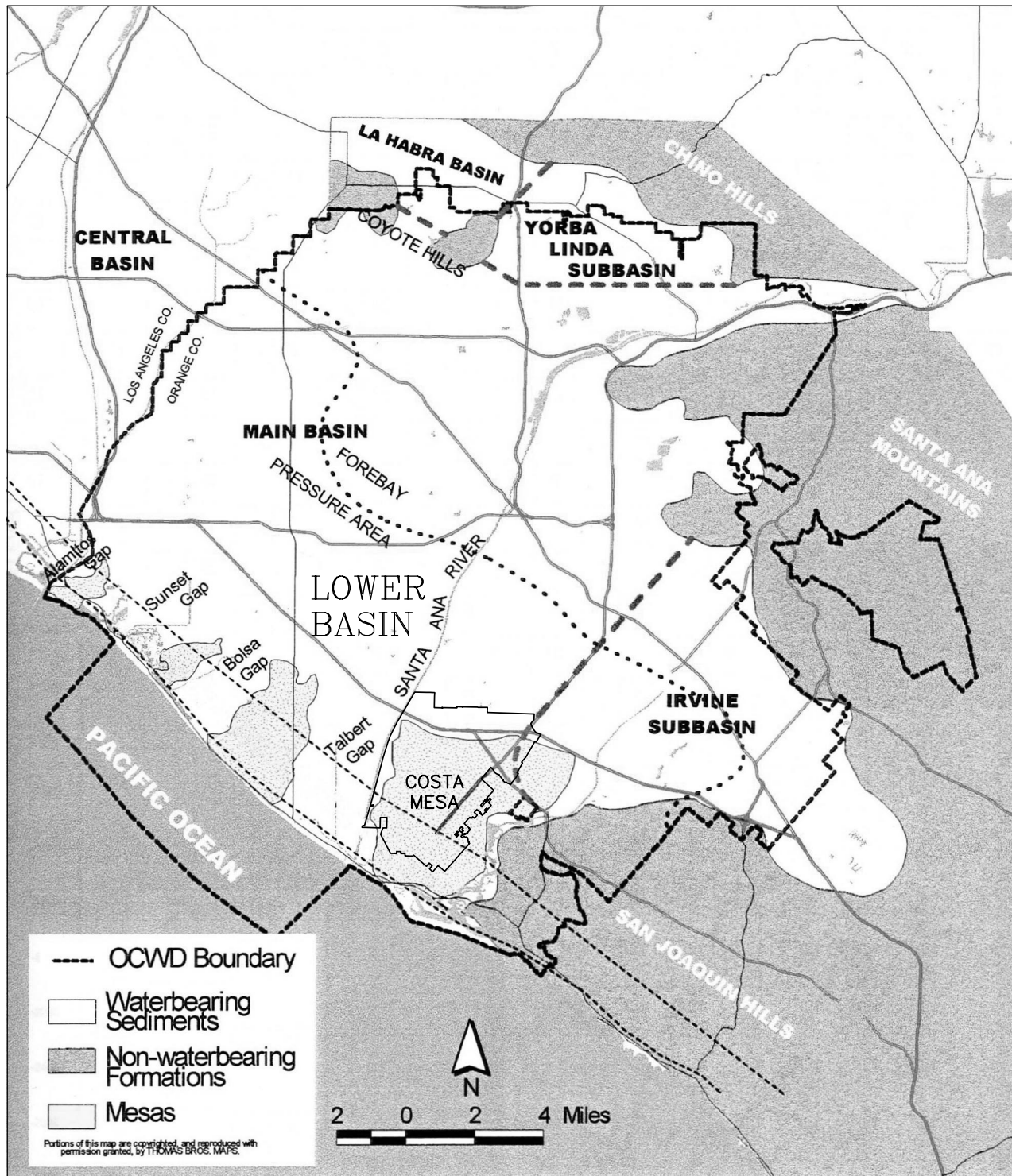
GROUNDWATER

Extensive portions of Orange County are underlain by deep deposits of permeable, water-bearing sedimentary geologic strata. Groundwater occurs in semi- to moderately-consolidated sand, gravel, and silt occurring in aquifers extending from approximately 40 to over 2,500 feet beneath the ground surface in Costa Mesa. Depths to the uppermost aquifer vary throughout the City from approximately 40 feet below the ground surface in the northern portion to over 100 feet near the coast. Groundwater is present at depths of less than 40 feet along the Santa Ana River. Groundwater for Costa Mesa is withdrawn from the largest of four groundwater basins in Orange County - the Lower Santa Ana Groundwater Basin.

The Mesa Consolidated Water District (Mesa) owns and operates nine groundwater production wells. Seven of these wells are currently in operation. These seven wells have a total design capacity of approximately 14,000 gallons per minute (GPM). All of the wells are located in the northwest portion of the service area and produce water from the Orange County groundwater basin which is managed by OCWD.

In addition, Mesa is developing additional (previously untapped) groundwater supplies from deeper aquifers. Water from these levels has slight discoloration and odor problems, but is chemically of very high quality. Mesa removes these unpleasant but nontoxic characteristics by treating the water with an ozone gas purification process. This additional water source provides customers with water that is of higher quality and lower cost than water imported by the Metropolitan Water District (MWD).

GROUNDWATER BASINS



N.T.S. Source: Orange County Flood Control District

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EXHIBIT CON-4

Mesa's Reservoir No.1 has a capacity of about 10 million gallons (MG). The reservoir is located next to Mesa's offices on Placentia Avenue in southwest Costa Mesa and is partially below ground. Dedicated in May 1990, the reservoir assists in meeting daily demand peaks, provides needed water and additional water pressure for fire fighting, and supplies local water storage during an emergency.

Completed in 1995, Mesa's Reservoir No. 2, the Karl Kemp Reservoir, has a capacity of about 18.0 MG. The underground reservoir is located under the playing field at the Lindbergh School site. The reservoir adds needed storage for the community's southeast side, and helps balance system pressure, as well as helps to meet daily demand peaks. This added storage allows Mesa to pump groundwater 24-hours a day, filling the reservoir during low-use periods. Then Mesa draws water from both wells and reservoir storage during peak use periods. This ability maximizes the use of local water resources and helps reduce Mesa's dependency on imported water, which can be three times the cost of groundwater.

WATER SUPPLY

Costa Mesa is served by two water supply agencies: Mesa and Irvine Ranch Water District (IRWD) (refer to Exhibit CON-5, *Water Supply Agency Boundaries*). A majority (85%) of the City is within the boundaries of the Mesa, which also serves unincorporated areas of the County and portions of Newport Beach. Properties to the southeast of Newport Boulevard, between 23rd and Bristol Streets, are served by the IRWD. Both Mesa and IRWD are affiliated with both the Coastal Municipal Water District (Coastal) and the Municipal Water District of Orange County (MWDOC). In turn, Coastal and MWDOC are member agencies in the Metropolitan Water District of Southern California (MWD). Of additional note, as of Spring 2000, Coastal and MWDOC were in the process of a joint merger. MWD has the responsibility for acquiring, storing, and distributing supplemental (nonlocal or imported) water on a wholesale basis in the Southern California Coastal Plain.

Natural water supplies in Orange County are limited to three sources: 1) groundwater, 2) surface flows in the Santa Ana River originating in Riverside and San Bernardino Counties, and 3) local precipitation and runoff in Santiago Creek and other streams. Because the demand for water greatly exceeds the rate of replenishment of natural water sources, the majority of the urban and rural communities in Orange County are wholly or in part dependent upon water imported through the facilities of the MWD.

Mesa Consolidated Water District

Mesa encompasses approximately 18 square miles. Mesa serves Costa Mesa, part of Newport Beach and the John Wayne Airport. Mesa serves a population of 103,000 residents, and provides domestic and irrigation water services to 23,000 metered connections. On an annual basis, Mesa delivers 21,000 acre-feet (6.6 billion gallons) of water to the various users.⁵

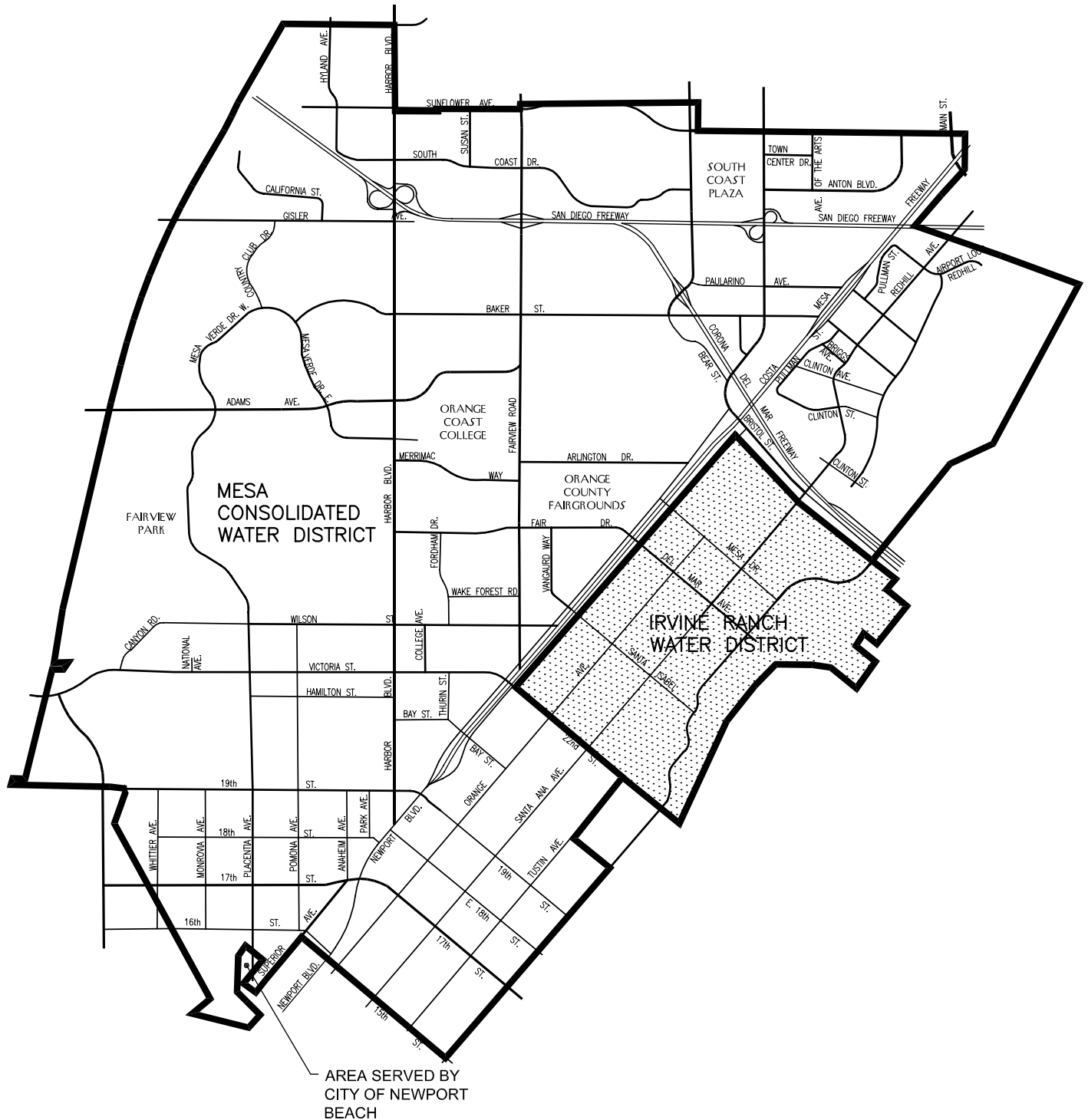
Irvine Ranch Water District

IRWD encompasses approximately 78,000 acres, or 123 square miles in southern central Orange County. IRWD serves all of the City of Irvine and the unincorporated areas of Foothill Ranch and Newport Coast. In addition, IRWD

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Source: Mesa Consolidated Water District Facts and Figures, February 11, 2000.

WATER SUPPLY AGENCY BOUNDARIES



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EXHIBIT CON-5

serves portions of Tustin, Santa Ana, Newport Beach, Costa Mesa, Orange and Portola Hills. In 1997, IRWD began providing water service to the Santa Ana Heights community.

The IRWD serves a population of 223,000, and provides water to approximately 63,000 domestic connections, which includes residential, commercial, industrial, fire protection, public authorities, construction, landscape irrigation and agricultural users.⁶ In addition, IRWD serves a total of 62,951 reclaimed water connections, which includes public authorities, landscape irrigation and agricultural users.

For the fiscal year 1998/1999, the IRWD delivered 43,338 acre-feet of treated (potable) water, 11,970 acre-feet of untreated (non-potable) water, and 13,693 acre-feet of reclaimed water for a total of 69,101 acre-feet.⁷

WATER SOURCES

Water is imported into Orange County via two extensive systems of aqueducts operated by MWD. At present, the primary source of supply is the Colorado River Aqueduct system. This aqueduct transports water from Lake Havasu on the Colorado River to Lake Mathews, MWD storage reservoir in Riverside County. From this point, water is carried to East Orange County Feeder No. 2, the main distribution line serving the County.

The second source of supply of imported water is the State Water Project (SWP). This system brings water from the Upper Feather River in north-central California via the California Aqueduct to Lake Castaic north of Los Angeles. From Castaic, the Foothill Feeder transports water to the Weymouth Filtration facility in La Verne. From this point, the Yorba Linda Feeder carries water to the Diemer Filtration Plant for distribution in Orange County.

Currently, Mesa and IRWD rely on both groundwater and imported water. At present, 83 percent of Mesa's water supply is derived from groundwater from seven wells. OCWD manages the local area groundwater basin and utilizes advanced techniques for recharging the groundwater basin. This additional water source provides customers with water that is of higher quality and lower cost than water imported from MWD. Mesa's 2000 Master Plan calls for capital improvements including a deep water aquifer treatment facility that will increase groundwater production to 95 percent of the total water supply by 2000-2001, decreasing the dependence on higher cost import water.

Since Costa Mesa depends upon imported water for a portion of its water supply, the potential impacts of water supply and demand extend beyond the boundaries of the City and its two serving agencies. The availability of imported water is directly related to the water supply conditions in the source watersheds as well as demand for water throughout the State. Recurring dry years can affect Southern California's water allotment. All of Southern California is more reliant on water from the north since the MWD allotment of Colorado River water was reduced from 1.2 million to 0.55 million acre-feet per year at the completion of the Central Arizona project in 1985.

⁶ Source: Irvine Ranch Water District (IRWD) website: information regarding service area and facts and figures. Information was collected from the IRWD website in October 2000.

⁷ An acre-foot of water covers one acre of land one foot deep. One acre foot of water (approximately 326,000 gallons) represents the needs of two average families, in and around the home, for one year.

Mesa Consolidated Water District⁸

Approximately 75 percent of Mesa's water supply is pumped from natural underground water aquifers, which are located in the Orange County Groundwater Basin. OCWD manages this groundwater basin, supplying water to many areas in Orange County. The OCWD supplements nature by artificially replenishing the groundwater basin with imported and natural water supplies.

The remaining 25 percent of Mesa's water supply is imported from the MWD via two wholesale water agencies: MWDOC and Coastal. Imported supplies are transported through aqueducts from the Colorado River and Northern California. Imported water is more expensive than groundwater due to transportation and treatment costs.

In an effort to decrease dependence on expensive imported water supplies, Mesa is continuing to build local water wells and reservoirs to store groundwater for use during peak demand periods. Currently, Mesa owns and operates two reservoirs, which have the combined capacity to store more than 28 million gallons of water. Mesa is anticipating that smaller amounts of imported water will need to be purchased due to the increased use of colored water.

Colored water is an additional water resource, supplementing clear water. Colored water is pumped from deep aquifers in the Orange County Groundwater Basin. Colored water is the color of weak tea and has a sulfur smell. The color and odor are believed to originate from ancient redwood forests and peat. Colored water is treated using ozone and biofiltration to eliminate the color and odor, and chloramines for disinfection. Colored water is a high quality resource that meets and exceeds all state and federal water quality standards. Mesa is at the forefront of colored water treatment and is the first water purveyor in the United States to practice ozone treatment at the wellhead.

Irvine Ranch Water District

Approximately 50 percent of IRWD's water is purchased from MWD. This imported water comes from the Colorado River via the Colorado River Aqueduct and from Northern California via the State Water Project. The remaining 50 percent of the supply comes from local groundwater wells.⁹

To alleviate its dependency on imported water, in 1979 the IRWD began to develop a series of local wells called the Dyer Road Well Field Project. These wells, ranging from 400 to 1,200 feet in depth, extract high quality water from the Orange County Groundwater Basin. This groundwater now accounts for 50 percent of IRWD's total potable water supply.

Water Resources Master Plan¹⁰

The IRWD drafted a Water Resources Master Plan (WRMP) at the beginning of 2000. The Executive Summary chapter of the WRMP discusses the IRWD's recommendations regarding changes in the water resource mix.

The WRMP recommends that IRWD move from a heavy reliance on imported water to a greater utilization of local groundwater for cost, water quality and reliability reasons. New potable groundwater supplies would greatly reduce the

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Source: Mesa Consolidated Water District Facts and Figures, February 11, 2000.

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Source: Irvine Ranch Water District website, Water Sources & Changes. Data was collected from the IRWD website on October 12, 2000.

¹⁰

Source: Irvine Ranch Water District, Water Resources Master Plan, January 2000.

reliance on imported water under normal operating conditions and under most emergency outage scenarios. An expansion of the Michelson Water Reclamation Plant treatment capacity and the inclusion of the San Joaquin Reservoir as a reclaimed water seasonal storage reservoir are recommended to meet projected demand increases in the reclaimed water system. The resource mix for the year 2025 could potentially consist of nearly 70 percent clear and treated groundwater with only 5 percent of untreated imported water required for the nonpotable system.

Existing potable system sources are imported treated water purchased from MWD and local groundwater developed through the Dyer Road Well Field. IRWD plans to develop additional potable groundwater to meet its future demand. These projects would ultimately increase supply reliability and water quality, and may reduce overall supply costs.

Specific recommendations to maximize use of local groundwater supplies in the potable system include supporting the proposed Inland Well Fields. In addition, the capability of the Irvine Sub-basin to support additional groundwater yield should be evaluated. Finally, a well rehabilitation program should be developed to monitor and maintain the long-term viability of groundwater production facilities.

Existing nonpotable system sources are treated wastewater from the reclamation plant, untreated water from Irvine Lake through the Irvine Lake Pipeline and some local groundwater. The untreated source consists of untreated water purchased from the MWD and/or local runoff, depending on winter rainfall. To meet increasing demands for reclaimed water, existing sources must be expanded or new sources developed. An expansion of reclamation treatment capacity and reclaimed water seasonal storage from the conversion of the San Joaquin Reservoir from potable use would minimize the amount of imported treated water used in the reclamation water system. This would also reduce the amount of wastewater sent to the Orange County Sanitation District for treatment and disposal, and allow groundwater production to be concentrated in the potable water system.

WATER CONSERVATION

The importance of water conservation programs was brought into focus during several recent droughts in California. In response to the most recent drought, MWD implemented a mandatory water rationing plan for its customers. Both Mesa and IRWD have adopted water conservation policies.

The City of Costa Mesa also encourages water conservation in all new developments to incorporate all interior and exterior water conservation measures required by State law and the affected water agencies.

In cooperation with the OCWD, Mesa uses the OCWD's "Green Acres" reclaimed wastewater use program. Green Acres program water is highly treated and purified reclaimed wastewater, pumped in a separate distribution pipeline system, for use by selected users for nonpotable (nondrinking) purposes, including production processes and the irrigation of greenbelts, golf courses, parks, and other similar facilities. Areas that are within a five-mile radius of the OCWD "Water Factory 21" facility (near the Santa Ana River/San Diego 405 Freeway overpass, just outside of Mesa's borders) will have the opportunity to utilize this lower cost alternative water source in place of more scarce and more expensive groundwater and imported water.

WASTEWATER

The Costa Mesa Sanitary District (CMSD) is the local sewerage agency for the majority of the City. The remaining portions of the City are served directly by the County Sanitation District of Orange County (CSDOC), which also treat the wastewater. Both CMSD and CSDOC maintain master plans based on anticipated land use intensities in order to estimate and plan for future needs. CSDOC's Master Plan guides wastewater collection, treatment and disposal activities through the year 2020.

Wastewater, collected by the Costa Mesa and County districts, is processed at CSDOC's treatment plants located in Fountain Valley and Huntington Beach. CSDOC operates under a five-year National Pollution Discharge Elimination System (NPDES) ocean discharge permit issued by the California Regional Water Quality Control Board and the EPA. This permit has a set discharge limit for biochemical oxygen demand (BOD) and suspended solids. Currently, CSDOC's discharge is close to the BOD limit.

Three elements of the sewage disposal system must be considered in conjunction with the 2000 General Plan: local collection lines, major trunk lines, and treatment facilities. County treatment plants had been planned in accordance with regional growth forecasts and the County Sanitation District recently updated their Master Plan to reflect current growth projections. The Costa Mesa 2000 General Plan is consistent with regional growth projections.

Collector and trunk lines should generally be adequate to accommodate sewage generated by future growth in Costa Mesa. Localized impacts may result from increases in development intensity beyond that envisioned by the 1970 General Plan for which the collector system was designed. The Costa Mesa Sanitary District will be impacted similarly. Such impacts are most likely to occur in conjunction with medium- and high-density residential developments, as well as in the urban center areas.

WATER QUALITY

The quality of water delivered to Costa Mesa is the result of blending water from three separate sources (groundwater, Colorado River and State Water Project) with varying degrees of contamination. Based on a comparison of a primary indicator of water quality, the concentration of total dissolved solids (TDS), it can be seen that groundwater produced by the Mesa is of relatively high quality. Total dissolved solid concentrations in extracted water within the Lower Santa Ana Basin ranges from 200 parts per million (ppm) to 980 ppm, while the TDS levels from Mesa wells average 277 ppm. The U.S. Public Health Service recommends a standard of 1,000 ppm Minimum Contaminant Level of TDS for drinking water.

With respect to imported water, Colorado River water is poor in TDS (750 to 800 ppm) and hardness quality (280 ppm), but excellent with respect to turbidity (2 ppm or less). In contrast, SWP water is relatively low in TDS (226 ppm) and hardness (97 ppm) but high in turbidity (3.6 ppm). The combined sources result in quality indicators of 447 ppm TDS and 239 ppm hardness of water supplied by MWD. In contrast, Mesa's well produces water that only has 166.8 ppm hardness of water.

Mesa's 1998 Water Quality Report indicates that its drinking water is of a higher quality than required by the State and Federal standards. California water quality standards are more restrictive than Federal standards. The California Department of Health Services enforces State drinking water standards. Mesa monitors its water supplies on an ongoing basis, and measures approximately 200 substances.

WATER QUALITY AGENCIES

Primary water quality and pollution control responsibilities are held by various federal, state and regional agencies. The Federal Environmental Protection Agency (EPA) develops national programs and regulations for water pollution control and water supply with full enforcement powers given to the State Water Resources Control Board. The State is divided into nine regions, each governed by a Regional Water Quality Control Board responsible for preparing and adopting regional water quality control plans, enforcing waste discharge requirements and performing other functions concerning water quality control. Actions of these Boards are subject to review by the State Department of Water Resources and Health. SCAG has been appointed by the EPA as the agency to coordinate water quality management planning in the South Coast area and is responsible for the development of a regional program for the control of nonpoint sources of water pollution (208 program). Additionally, Costa Mesa is a member of the Newport-Irvine Waste Management Planning Agency (NIWA), a joint powers authority established to conduct water quality studies in the Newport Bay Drainage Area. The City's participation in regional water quality planning efforts and support of other pollution control agencies should ensure the maintenance of acceptable levels of water quality in the future.

WATER TREATMENT

In 1985, MWD, the agency that supplies Mesa and IRWD with imported water, switched from free chlorine to chloramine. Chloramine is a combination of chlorine and ammonia used as a disinfectant to prevent waterborne diseases such as cholera and typhoid. Mesa uses a mix of chloramines and ozone to improve the water quality and reduce the byproducts of disinfection.

The switch to chloramines reduces the formation of disinfection-by-products such as Trihalomethanes (THM). THM's are suspected carcinogens. Changes in Federal and State drinking water standards prompted this change.

Chloraminated water is safe for drinking, cooking, bathing, and all uses we have for water everyday. However, there are two groups of people who need to take special care with chloraminated water: kidney dialysis patients and fish owners. Medical centers that perform dialysis are responsible for purifying the water that enters dialysis machines. All hospitals and medical centers using dialysis are aware of the change. Commercial products are available at pet supply stores to remove chloramines in fish tanks.

WASTE MANAGEMENT

Landfill sites throughout the State are nearing capacity. In southern California, this is especially a problem because new landfill sites are hard to locate due to limited land resources. In 1989, the State legislature passed AB 939, the California Integrated Waste Management Act. AB 939 requires all cities and counties within the State to prepare integrated waste management plans to attain solid waste reduction goals of 25 percent reduction by 1995 and 50 percent reduction by 2000.

These plans were to include components for source reduction, recycling, and composting.

In January 1992, Costa Mesa prepared and adopted a source reduction and recycling element (SRRE). A description of the programs the City adopted in the final SRRE are provided below.

- ◆ Source reduction is any action that avoids the creation of waste by reducing waste as its source, including reducing packaging, reducing the use of nonrecyclable materials, replacing disposable materials and products with reusable materials and products, reducing the amount of yard wastes generated and increasing the efficiency of the use of paper, cardboard, glass, metal, plastic, and other materials. It requires manufacturers and consumers to take an active role in reducing the amount of waste that is produced through changes in production methods and consumption patterns.
- ◆ Recycling is any action that avoids the creation of waste through the reuse or reprocessing of material. Recycling requires active participation by the community and can take any number of forms. Recycling can be stimulated at all levels of government and the private sector through education, regulation and legislation. The three areas recycling focuses on within Costa Mesa are 1) single-family residential; 2) multi-family residential, commercial, industrial and institutional uses and; 3) buy-back and drop-off recycling programs.
- ◆ Composting is a controlled biological decomposition of organic waste to a relatively stable humus-like material. As a waste diversion method composting provides an opportunity to substantially reduce the volume of yard waste and other organic material that is presently landfilled.
- ◆ Special wastes are relatively large, identifiable waste streams from the general municipal solid waste stream that have the potential to be segregated, reused, recycled, or disposed in a manner uniquely suited to that waste. Examples of special waste can include, but are not limited to ash, sewage sludge, industrial sludge, asbestos, auto shredder waste, and auto bodies. The management of these special wastes is primarily the responsibility of the County of Orange. The City of Costa Mesa will support the County of Orange in its efforts as indicated in this component.
- ◆ Education and public awareness in the area of recycling is important to increase the amount of refuse diverted from the waste stream. The City of Costa Mesa and the Costa Mesa Sanitary District (CMSD) are actively involved in educating the public and support of the goals and objectives of the County of Orange as well as the intent of AB 939.

The City of Costa Mesa promotes residents to use their own containers to separate waste from recyclable materials. According to the Costa Mesa Public Services Department, Costa Mesa diverted 26 percent of its waste stream in 1995, 27 percent in 1996, 39.9 percent in 1997 and 51 percent in 1998.

LANDFILLS

The County of Orange has four landfill facilities which serve the cities within the County. These landfills are located in Brea, Santiago Canyon, Irvine and San Juan Capistrano (this facility is both a landfill and a Household Hazardous Waste

Collection Center). However, the County of Orange is currently in the process of closing the Santiago Canyon Landfill. The Santiago Canyon Landfill has been operating at a reduced level since 1993 with the closure of this facility anticipated for 2001.

HAZARDOUS WASTE MANAGEMENT

A full discussion of hazardous waste management is discussed in the Safety Element of this General Plan.

6.4 KEY ISSUES

AIR QUALITY

The following section identifies issues that contribute to air pollution in Costa Mesa and the region and specifies regulations which must be implemented to fulfill Air Quality Management Plan requirements.

LAND USE PATTERNS

Land use regulations influence the distribution of housing, employment centers, and other land uses within a community. The widespread distribution of different land use sectors affects individuals traveling to various destinations within a community. A substantial amount of air pollution can be attributed to automobile trips traveling between these locations.

- ◆ Only those cities and counties (including Costa Mesa) that have adopted a Congestion Management Plan (CMP) and can annually demonstrate an integration and application of CMP requirements into the land use decision-making process will be eligible for State gas tax funding.
- ◆ Locating jobs and housing within close distance creates the opportunity for individuals to choose alternative transportation modes to work, including walking or bicycling.
- ◆ Commercial centers within Costa Mesa are generally separated from residential uses and require use of the automobile to access. Integrating housing opportunities within and adjacent to commercial developments encourages pedestrian rather than vehicular travel.

TRANSPORTATION

The widespread use of automobiles in southern California contributes to the area's degrading air quality. The Air Quality Management Plan focuses on reducing vehicle trips because of the emissions created by automobile travel.

- ◆ Extensive use of personal motorized transportation modes contributes to the region's poor air quality. The home to work trip constitutes the majority of these trips taken on an individual basis. Reducing the number of home to work vehicle trips would substantially diminish the amount of pollution generated.

REDUCE PARTICULATE EMISSIONS

Particulates resulting from construction activities and various other sources degrade the area's air quality.

- ◆ Construction activities occurring throughout the community can create particulate emissions. The City has adopted a dust control ordinance and provisions for site watering during construction to minimize particulates.
- ◆ Some agricultural land remains in northern Costa Mesa. Dust rising from farming practices and unpaved roads degrades the community's air quality.

BIOLOGICAL RESOURCES

The City of Costa Mesa has been significantly urbanized over time with approximately 97 percent of the City buildout. Thus, the preservation of remaining sensitive biological habitat is important. Given this, the City wants to maintain and preserve any sensitive endangered wildlife and plant species (including habitat) remaining.

COASTAL RESOURCES

The key issues which should be addressed in Costa Mesa's LCP process include the following:

- ◆ Development feasibility and appropriateness in the Santa Ana River lowlands.
- ◆ Development compatibility with adjacent land uses in the Santa Ana River lowlands.
- ◆ Sensitive habitat protection and/or enhancement.
- ◆ Development compatibility adjacent to sensitive habitat areas.
- ◆ Recreation and visitor-serving facilities necessary to provide maximum public access to Costa Mesa's coastal resources while consistent with the protection of environmentally sensitive areas.
- ◆ Wetland restoration potential in the Santa Ana River estuary and lowlands.
- ◆ Development appropriateness in flood plains.
- ◆ Adequacy of service systems to include sufficient road capacities to meet the needs of recreational travel demands.
- ◆ Compatibility of construction of a major arterial highway (19th Street and "Bluff Road") with planned uses in the Coastal Zone.
- ◆ Incorporation of coastal policies and programs into the overall planning and development process.

- ◆ Development controls that ensure construction on adjacent properties is not detrimental to the uses and developments in the Coastal Zone.

The City of Costa Mesa has not prepared a LCP for submittal and approval by the California Coastal Commission and thus, does not have discretionary approval of projects within the Coastal Zone. If the City desires to have discretionary approval of projects instead of the Coastal Commission, the City needs a LCP, and subsequently receive approval of the LCP by the Coastal Commission. The City has elected not to prepare a LCP for the limited City area within the Coastal Zone, given that all lands within the Coastal Zone are under public ownership.

ENERGY

The use of energy conservation techniques (including compliance with Title 24) needs to continue in residential, commercial, and industrial developments to lessen energy consumption in the City.

WATER RESOURCES

A potable water distribution system shall be maintained for all existing and future residents and businesses in the City.

WASTEWATER

A comprehensive wastewater collection and treatment system for all development shall be maintained.

WATER QUALITY

The quality and quantity of groundwater shall be protected and maintained.

WASTE MANAGEMENT

Available landfill space is quickly diminishing. The City must continue to implement source reduction and recycling programs to reduce the production of solid waste.

Recycling efforts mandated by Assembly Bill 939 require local jurisdictions to reduce the amount of solid waste produced. The City must continue to expand recycling and source reduction programs in the City to meet State mandated diversion requirements.

6.5 DESCRIPTION OF CONSERVATION PLAN

The Conservation Plan focuses on the protection and stewardship of the natural environment as a major community asset for the future quality of life in Costa Mesa. Conserving and protecting the quantity and quality of all water resources, clean air, natural topography, habitat of native plant and wildlife species, scenic vistas and energy resources is a significant ingredient in the well-being of the City and its residents. These resources should be perpetuated for their visual, functional, environmental and aesthetic qualities.

The goals, objectives and policies contained in the following section have been established to guide the designation, identification, preservation and management of environmental resources in the future.

6.6 GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies that address conservation of resources are as follows:

GOAL CON-1: RESOURCE CONSERVATION

It is the goal of the City of Costa Mesa to provide its citizens with a high quality environment through the conservation of resources, including land, water, wildlife, and vegetation; the protection of areas of unique natural beauty; the integration of natural features into the man-made environment.

Objective CON-1A. Evaluate the preservation of the City's existing biotic resources in as ecologically viable and natural a condition as possible, and, where feasible, restore and integrate these resources into the urban environment.

- CON-1A.1 Ensure that all future development will be adequately reviewed with regard to possible adverse effects on plant and animal life and critical wildlife habitat and wetlands, and incorporate feasible mitigation measures into the project design to reduce such effects.
- CON-1A.2 Encourage sustainable landscapes through landscape techniques that conserve, recycle, and reuse valuable resources, including the use of native vegetation and drought tolerant landscape materials consistent with the City's landscaping standards set forth in Chapter VII of Costa Mesa Zoning Code.
- CON-1A.3 Continue to comply with the National Pollutant Discharge Elimination System (NPDES) Program by participating in the Countywide Drainage Area Management Plan (DAMP) which stipulates water quality requirements for minimizing urban runoff and discharge from new development and requires the provisions of applicable Best Management Practices (BMP).
- CON-1A.4 Continue to implement the Drainage Area Management Plan (DAMP), and any amendments to it, that require site dischargers to reduce pollutants in runoff from new development and significant redevelopment areas.
- CON-1A.5 Pursue the adoption of an off-site mitigation program for the loss of critical wildlife habitat and wetlands when on-site mitigation is determined to be infeasible. Off-site mitigation should occur within the City of Costa Mesa.

- CON-1A.6 Support environmentally acceptable and sustainable energy sources (especially renewable resources such as solar, wind, hydroelectric, and geothermal resources) for new development and significant redevelopment projects.

Objective CON-1B. Work towards the protection and conservation of the City's existing and future water resources recognizing water as a limited resource requiring conservation.

- CON-1B.1 Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local water supplies and water quality and an analysis of the impact on water capacity and water availability.
- CON-1B.2 Pursue the use of reclaimed wastewater for the irrigation of all appropriate open space facilities and require new developments and City projects, and encourage existing developments to tie into the reclaimed water system when recommended by the Orange County Water District, Mesa Consolidated Water District, or Irvine Ranch Water District.
- CON-1B.3 Cooperate with the Mesa Consolidated Water District and Irvine Ranch Water District to advise the citizens of Costa Mesa of the benefits which can be obtained from the practices of water conservation.
- CON-1B.4 Prohibit the use of land for solid waste disposal dump sites in Costa Mesa and work towards the prohibition of contiguous areas for dump sites where there is possible ground water contamination.

Objective CON-1C. Work towards the conservation of energy resources in both existing and new buildings, utilities and infrastructure.

- CON-1C.1 Continue the program of replacing mercury vapor and other street lights with high-pressure sodium vapor.
- CON-1C.2 Apply the standards contained in Title 24 of the California Code of Regulations as applicable to the construction of all new dwelling units.
- CON-1C.3 Pursue adoption of an Energy Conservation Program that requires the use of materials, devices, and measures to reduce energy consumption above the energy conservation requirements of Title 24. These measures may include built-in energy efficient appliances, automated controls for air conditioners and lighting, special sunlight-filtering window coatings or double-paned windows, light-colored roofing materials, and other means to reduce energy consumption and a structure's heating and cooling needs.
- CON-1C.4 Continue to investigate the feasibility of municipal power programs.

Objective CON-1D. Work towards the orderly, balanced utilization and conservation of the City's coastal resources.

- CON-1D.1 Coordinate City planning efforts with the County of Orange, the City of Newport Beach, and other agencies to develop uniform and consistent policies regarding the future use and development of the River Park Project.
- CON-1D.2 Preserve and enhance existing wetlands areas.
- CON-1D.3 Review existing public works facility planning efforts to ensure that adequate water, sewer, and circulation systems are available to serve uses in the Coastal Zone and to limit planned capacities to conform to the demands created by development which is consistent with the Coastal Act.
- CON-1D.4 Require the provision of adequate visitor serving on-site parking facilities that do not impact sensitive resources within the Coastal Zone.
- CON-1D.5 Coordinate the development of plans, policies, and design standards for projects within the Coastal Zone with appropriate local, regional, state, and federal agencies.

Objective CON-1E. Pursue the prevention of the significant deterioration of local and regional air and water quality.

- CON-1E.1 Cooperate with and support regional, State, and Federal agencies to improve air quality throughout the South Coast Air Basin.
- CON-1E.2 Require, as a part of the environmental review procedure, an analysis of major development or redevelopment project impacts on local and regional air and water quality.
- CON-1E.3 Develop and implement a Reasonable Available Control Measure Plan (including employee ridesharing, traffic signal synchronization, bicycle/pedestrian facilities, energy conservation street lighting, modified work schedules, preferential carpool parking, or other equivalent control measures) in conformance with the Air Quality Management Plan for the South Coast Air Basin.

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- CON-1E.4 Develop and implement comprehensive watershed management plans for drainage basins in Costa Mesa. Closely coordinate with the County, surrounding cities, and the various special districts whose decisions and activities affect City and County watersheds and other natural resources.
- CON-1E.5 Implement urban runoff pollution control measures and programs to attempt to reduce and control the discharge of pollutants into storm drains to the maximum extent practicable.
- CON-1E.6 Reduce the quantity of runoff and discharge of pollutants to the maximum extent practicable by integrating surface runoff controls into new development and redevelopment land use decisions.

- CON-1E.7 Support the acquisition of areas of open space that have water quality significance by the City, County, State, or other agencies and non-profit organizations for preservation.
- CON-1E.8 Coordinate with other local government agencies on county-wide land use issues to maintain a watershed-based approach to land use, flood control, and non-point source pollution prevention.
- CON-1E.9 Ensure that land uses which pose a significant threat to water quality, such as automobile dismantlers, transportation and vehicle storage facilities, waste transfer disposal facilities, light industries, and other uses that have a significant potential for pollution, shall not provide storage to or discharge pollutants that could easily come in contact with flood waters or high groundwater.
- CON-1E.10 Minimize particulate matter pollution through control over construction projects subject to the NPDES Stormwater Permit (including erosion and sediment controls on grading, quarrying, vegetation removal, construction and demolition), industrial processes, parking lots, and other activities that pose such a water quality threat.
- CON-1E.11 Ensure development consistency with the National Community Conservation Plan areas in Fairview Park and Talbert Regional Park.
- CON-1E.12 Ensure that new development/significant redevelopment projects subject to the NPDES Stormwater Permit incorporate, to the maximum extent practicable, measures that reduce the quantity of storm flow and the discharge of pollutants in urban/storm water runoff to protect water quality, biological habitats, and recreational uses of downstream receiving water bodies.
- CON-1E.13 Ensure that future land development/redevelopment projects subject to the NPDES Stormwater Permit adhere to the design standards set forth in the current Drainage Area Management Plan (DAMP) and the City's Local Implementation Plan.